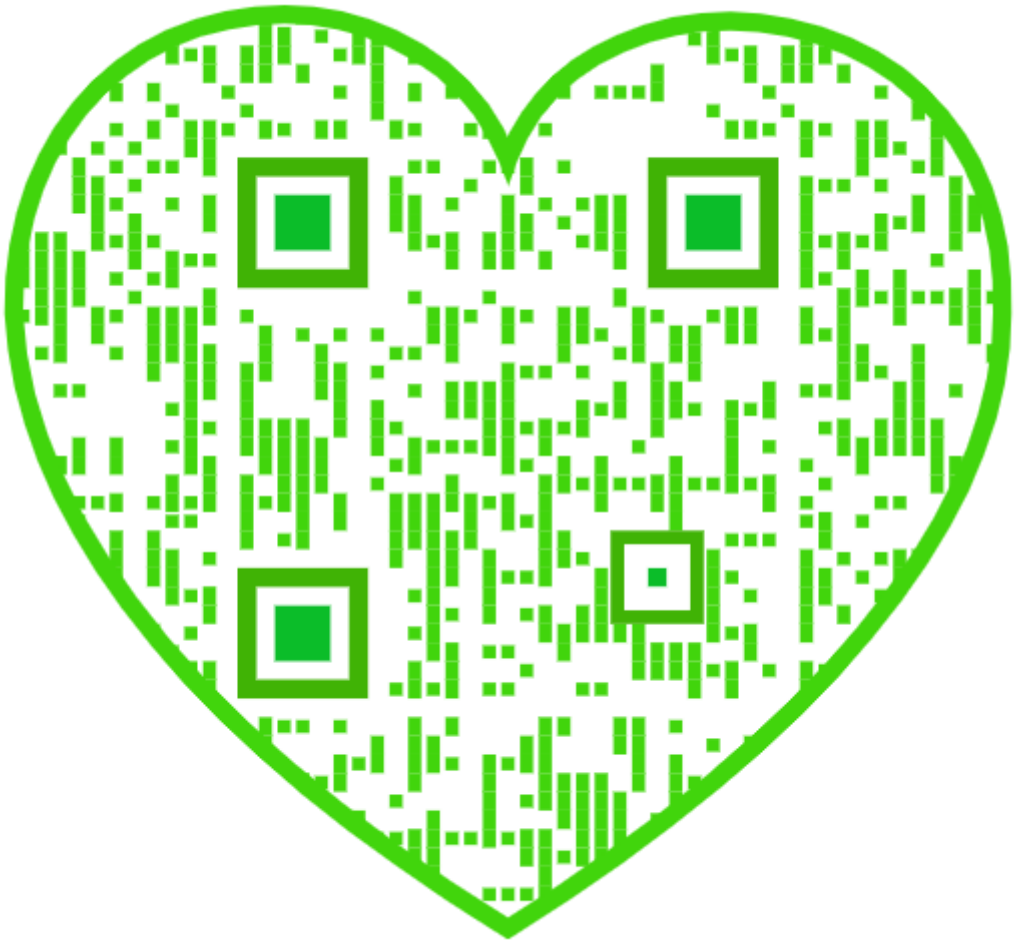
ECONOMICS AND INDUSTRIAL HISTORY

THURSTON



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ECONOMICS

AND

INDUSTRIAL HISTORY

FOR

SECONDARY SCHOOLS

BY

HENRY W. THURSTON

HEAD OF THE DEPARTMENT OF SOCIAL AND ECONOMIC SCIENCE IN THE CHICAGO NORMAL SCHOOL

CHICAGO

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PRESS OF
THE HENRY O. SHEPARD CO.,
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TO THE

MEMBERS OF MY CLASSES IN ECONOMICS

IN THE

HYDE PARK HIGH SCHOOL,

WHOSE EARNEST AND LONG-SUFFERING COÖPERATION

HAS MADE POSSIBLE

THE EVOLUTION OF THIS BOOK.

PREFACE

For the last five years, the author has earnestly believed that a beginner in economics had a right to find the subject closely related to his own experience, and that of his neighbors, so that he would seem to himself to be studying the industrial life of actual men and women more than books about this industrial life.

This manual is a result of the author's effort to put into practice in his own classes the idea just stated. It is sent out with the hope that his experience may prove valuable to other teachers who may make a similar effort. So far as he is aware, no such detailed and consecutive suggestions, as are given in Part I, for the first-hand observation, classification, and interpretation of some of the most fundamental facts and processes of the present industrial system are elsewhere accessible to the student. If well carried out, it is believed that they will be found of the greatest value, as they have all been tested in actual class-room experience.

It is believed further that the method herein pursued, by which the laboratory study of existing economic life is supplemented and enriched by showing the evolution of the industrial present from the industrial past—in short, the method of union between economics proper and industrial history—is here worked out in a new and vital way. The method of the book, as a whole, includes: (*a*) an observational study of some of the data of economics—facts about the structure and function of different parts of the existing economic system; (*b*) the consideration of a few facts of industrial history which it

is hoped may help the student to realize that the present industrial system is a result of evolution; and (*c*) an elementary discussion of some of the most fundamental economic principles in accordance with which the present system now works. In short, the method is an attempt to combine, for pedagogic reasons, the inductive, historical, and deductive methods in the same book and oftentimes in the same exercise.

It should be pointed out that, while it is believed that the book will give the best results when its parts are read in the order given, it may yet be profitably used in two other ways: (1) Part III may follow Part I at once, and Part II be read as supplementary reading, as a conclusion to the course, or omitted entirely; (2) Parts I and III may be omitted, and Part II alone studied.

It should also be clearly stated that the questions were designed to be used differently in the three parts. The questions of Part I aim at a considerable degree of continuity, and it is believed will give the best results if every pupil does his best to answer all the questions of each exercise. The questions of Part II are not carefully consecutive, and different questions may well be studied by different pupils as they have special facilities for getting answers. In Part III it is not intended that an exhaustive answer to all the questions should be given. The subject is too large to be given a complete treatment in any elementary book. It has, therefore, been the purpose of the author in Part III to begin the discussion of the most fundamental economic principles and then by means of questions to lead earnest pupils to see that each subject leads out in so many directions and so far that they will be compelled to recognize the limitations upon their own knowledge respecting it. It will be further noticed that many subjects ordinarily included in text-books on economics have been wholly omitted. If the questions of Part III, therefore, can be so used as to leave a deep conviction that the discussions of the book are purposely incomplete, and that the study

of economics is merely begun by him who has read only these pages, their highest purpose will have been fulfilled.

In a word, the ideal course in economics for secondary schools[1] has seemed to the author to be one which seeks to train the student in the observation, classification, and interpretation of the data of economics; make him conscious of the tendencies of great evolutionary movements in industrial society; and leave him in the presence of great theoretical and practical economic problems humble, but courageous and eager for further study.

The author gratefully acknowledges his indebtedness to many persons for suggestion, courtesy, encouragement, and criticism. To most, only this general acknowledgment can be made, but personal mention is due the following gentlemen who kindly read the book in manuscript: Professor Frederick R. Clow, State Normal School, Oshkosh, Wisconsin; Mr. R. E. Cutler, Northwest Division High School, Chicago; Dr. H. H. Belfield, Director of Chicago Manual Training School; and Professor E. G. Cooley, Principal-elect, Chicago Normal School.

The author desires to express his especial gratitude to Professor Albion W. Small, of the University of Chicago, and to Mr. E E. Hill, teacher of Civics and Economics, Hyde Park High School, Chicago, to both of whom, at every stage of the work, he has been indebted for detailed criticism and generous encouragement.

The intention has been to give, by means of footnotes throughout the text, full credit to author and publisher wherever such credit is due. In addition it is a pleasure to acknowledge the receipt of various special courtesies from the following publishers: The Macmillan Company, G. P. Putnam's Sons, Charles Scribner's Sons, Longmans, Green, &

[1]To any one who wishes a further discussion of method, the author's pamphlet on Methods of Teaching Economics in Secondary Schools will be sent by the publishers on application.

Company, Houghton, Mifflin & Company, T. Y. Crowell & Company, D. C. Heath & Company, Harper & Brothers, The Werner School Book Company, Silver, Burdett & Company, Charles H. Nicoll, H. V. & H. W. Poor, Flood & Vincent.

Chicago, December 11, 1899.

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GENERAL INTRODUCTION

For a century the proverb has been in vogue: "The proper study of mankind is man." To-day it is the fashion to declare that the proper study of mankind is society. There is danger that the name "sociology" will furnish many an unwise teacher with pretexts for luring pupils away from subjects that they might profitably study to others which contain only snares and illusions for beginners. This book is not a treatise on sociology. It is, however, precisely the kind of guide to elementary study of social facts that sociologists should recommend.

Sociology declares that every thing which every man does is connected with every thing which every other man does. Before it is possible to learn this truth except by rote, we must get acquainted with a great number of facts which exhibit the principle. We must learn to see how one act affects another in our own lives; how one neighbor's conduct has to do with another neighbor's comfort; how the things that we may do depend on the things that others have done.

There are two ways of getting this knowledge. The one is by study of history, political economy, and political science. The other is by observing people, and particularly by mingling with people in as many occupations and circumstances as possible. Neither of these two methods is self-sufficient. Neither of them is wholly trustworthy without the other. The study of the sciences that deal with particular ways in

which men act in society will never lose its charm, however; it will never cease to enlarge and instruct the mind; it will never fail to furnish elements of preparation for good citizenship. By study of history, economics, and civics, we in a way acquire as our own the experience of all the world.

On the other hand, we do not know society as we should if we learn about it merely at second hand. If we never saw machines, but merely read descriptions of them, we could not become very expert machinists. If we never stepped foot on a ship, nor looked upon the ocean, we would not be likely to have great skill as marine architects. In somewhat the same way, if we merely study the sciences of society, we will know, after all, only an artificial substitute for real men and women. We need to open our own eyes and learn for ourselves. All the social facts that any science can find are passing before us every day. We are not intelligent members of society until we know how to think these facts together in rational form.

This book is a wise guide to proper use of both these methods. The student who learns from books alone is apt to be helpless with his knowledge when he is called upon to apply it. The knowledge that comes from observation alone is less likely to be of an impractical sort, but it is more likely to lack breadth; and it may, therefore, be ill adapted to application under changed circumstances. This book aims to give training that will make scientific knowledge practical, and practical experience scientific.

Another rare feature in this book commends it especially to those who want to secure the highest order of results from study of society. The schools should teach civics, not to make officials, and economics, not to make financiers, but both to make good citizens. In too many cases, books on govern-

ment leave the impression that government is an end in itself; and books on economics confirm the ready belief that to make money is the supreme duty of man. This book tends to the impression that business and politics are out of gear unless they serve to promote large and true life. Pupils can hardly follow the plan of study here proposed without gaining more liberal ideas of the things that most conduce to human weal, and are consequently most worthy and honorable.

The kind of study here proposed is not mere reflection on dead, heartless abstractions. It is investigation of the intimate concerns of actual life. It stimulates social interest; it enlarges human sympathy; it develops love of justice; it rouses public spirit; it deepens the sense of civic obligation. In a word, it shifts the pupil's outlook from the standpoint of his private selfishness to that of the general welfare. Study of society by this method is thus not merely a preparation for citizenship, it is an apprenticeship in patriotism.

ALBION W. SMALL.

The University of Chicago.

PART I

INDUSTRIAL OBSERVATION AND INTERPRETATION

Lesson I

INTRODUCTION AND OBSERVATION OF OCCUPATIONS

The satisfaction of human need for food, shelter, clothing, amusement, instruction, social life, and inspiration toward doing right, costs continual human effort. To say this in another way, the problem of getting a living, using this word in the largest sense, takes a great deal of the time and effort of a great many people whom the student knows. The different ways actually taken by different people in their efforts to get a living; the conditions imposed upon us by nature and by ourselves through custom and law; the difference between our present methods of getting a living and those of our ancestors; some queries about future methods of getting a living, and the problem of trying to find some order, unity, and law underlying all these activities and processes; are the tasks to which the student is invited. For a while his text-book may be the members of his own family, his neighbors, his schoolmates, and all those persons he meets upon the street. He will often be directed to observe and report upon that which is familiar to him, but every question should be answered with his best thought, and in writing, for questions will soon appear that demand keen observation and clear thinking. The exercises will prove of little value to a

student unless constantly kept related, through his observation and thinking, to actual occupations, persons, and industrial processes. A simple way in which to begin to study industrial conditions is as follows:

Make out an alphabetic list of fifty different occupations by which you know persons are regularly getting a living.

Lesson II

Classification of Occupations

1. Write the following list of occupations in a column where they can easily be seen at a glance: Blacksmithing, farming, stage-driving, occupation of a commission merchant, medicine, tramping or begging, shoemaking, quarrying, express business, real estate business, ministry, stealing, carpentry, mining, driving a locomotive, selling dry-goods, teaching, occupation of an idiot, tailoring, fishing, conducting a street car, cigar-dealing, care of children and home by a mother, occupation of a poorhouse inmate, watchmaking, ice-cutting, running a steamboat, grocery business, hair-cutting, pleasure-seeking by an idle rich person.

2. Study the list to determine those occupations which are at bottom most alike.

3. Make six groups of five occupations each on the basis of this likeness.

4. Give a name to each group.

5. Criticize your grouping by asking these questions:

   a. Are the groups distinct each from the other? They should be.

   b. Is each occupation in the list included in the groups? In case of a somewhat complex occupation, it may take more than one group to include all its activities. The question is: Can all the processes of each occupation be included in the groups formed? They should be.

6. Be prepared to give reasons for your classification, and to defend it in class.

Lesson III

THE CLASSIFICATION TESTED

1. Classify, on the basis of the grouping adopted, an alphabetic list of one hundred and fifty occupations not already classified.

[Note.—The question will arise whether to classify some person from the point of view of the whole business with which he is connected, thus making each business as a whole the unit of classification, or to classify him from the point of view of his individual activity. A stenographer in the employ of a railroad company might be classified with railroading, and one in the employ of a college president with education, in which event the two stenographers would appear in different groups. On the other hand, they might be classed as stenographers *per se*, in which event they would be grouped together.

The first way of grouping is more convenient, more like the practice of the Census Bureau, and the latter, if well done, is more accurate. On the whole, for the purpose of these lessons, it will probably be found more satisfactory to classify most individual occupations on the basis of the whole business with which they are connected, rather than upon the basis of the individual activities of the persons themselves.

2. Make note of all occupations difficult to classify.]

Lesson IV

DIAGRAM OF LOCAL OCCUPATIONS

1. If the town in which you live has a directory, begin with the first name under some letter and read consecutively until the names of one hundred persons who are reported as engaged in gainful occupations have been read. Classify these occupations as in the preceding lesson.

2. If some of these occupations can not be classified on account of lack of information about them, for example, laborer and clerk, note also the number unclassified.

3. Find what per cent the number in each group is of the hundred occupations noted; and make a series of lines, or bars, accurately drawn to a scale, which represent by their lengths:

a. The total number of occupations noted.

b. The per cent which the number in each group is of the total.

4. Make note of all difficulties for discussion in class.

[NOTE.—Each pupil should have a note-book in which all diagrams and other valuable results of the study may be conveniently kept. Diagrams may be made more attractive by using different colors. Some of the diagrams in this lesson, and others that follow, may be made large enough to be hung up in the recitation room.

If each pupil has a different list of names assigned from the directory, the total number of occupations reported on by the class will be as representative of the occupations of the whole town or city as possible.

If there is no directory, each pupil may report upon the gainful occupations of all the persons residing in a certain block, or within certain limits along a certain street, the assignments to different pupils being so planned that the total of their reports may be as representative of the whole town as possible. The occupations so obtained may be grouped, computed in per cents, and represented by lines, as directed above.]

LESSON V

LOCAL AND NATIONAL OCCUPATIONS

1. Make another diagram in your note-book after the same plan as that of the preceding lesson, except that the numbers used are the totals for the class instead of your individual numbers.

2. Make a third diagram based on the following figures of the United States' Census for 1890:[1]

[1]For detailed statistics of occupations of persons in the United States in 1890, see *Statistical Abstract of the United States for 1898*, pp. 20-23.

a. Whole number of persons engaged in gainful occupations in the United States, 22,735,661
b. Engaged in extractive industries . . . 9,013,201
c. Engaged in professional, domestic, and personal service 5,304,829
d. Engaged in trade and transportation . 3,325,962
e. Engaged in transforming industries . . 5,091,669

Lesson VI

STUDY OF ACTUAL BUSINESS

In order to give satisfactory answers to the following questions, a concrete business, no matter how simple, with which the pupil is best acquainted and about which he can learn most accurately, should be chosen by each member of the class. Much depends upon the accuracy and directness of the information. The very soul of this work is its dependence upon facts. In asking questions pupils need tact. It may be explained that names of persons and of companies are not wanted. What is wanted is to find out the machinery of the business, just how it is carried on.

1. Name of the business or occupation.
2. Give a brief description of the land, building if any, and other equipment required to carry on the enterprise.
3. Who owns the land, a person or a group of persons?
4. What evidence of ownership does the owner have?
5. Who owns the building?
6. Who owns the rest of the equipment?
7. Who actually carries on the business, "is back of" it?
8. What different grades of helpers does he have?
9. Give the approximate number in each grade.
10. Give the ordinary business name of each form of payment which is made to owners simply as owners of something necessary to the business.
11. Give the ordinary name of each form of payment that is made to persons as active participants in carrying on the business, both in the management and in the ordinary work.

12. Are there any other persons, or groups of persons, aside from those who furnish it materials or buy its product, who regularly receive some payment from this enterprise? If so, name them and explain on what ground they receive these payments.

13. Enumerate all the different groups of persons who, from what they own or from what they do, regularly furnish something necessary for the carrying on of this enterprise.

14. Give the business name of each of these persons or groups.

Lesson VII

FORMS OF BUSINESS

In the preceding lesson some important words were used that may, perhaps, be new to certain members of the class and not understood alike by others. To the end, therefore, that the words may have a definite and common meaning, the following questions are proposed:

1. Find actual business enterprises illustrating as many of these words as possible:

a. Partnership.
b. Stock company.
c. Corporation.
d. Profit-sharing enterprise.
e. Coöperative enterprise.
f. Trust.[1]

2. Write a description of each with the aim to distinguish it from all the others.

3. Find out something about the manner of organizing a business of each kind in accordance with the laws of your state.

4. Which is most commonly found in your locality? Why?

5. What is the object of each form of organization?

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[1]For meaning of terms, laws of state, etc., consult: the dictionary; the encyclopedia; Lalor, *Cyclopedia of Political Science and Political Economy*, vol. III, index—Maynard, Merrill & Co., New York; the Revised Statutes of your own State; Schloss, *Methods of Industrial Remuneration*—2d. ed., 1894, G. P. Putnam's Sons, New York, or 3d. ed., 1898, Williams & Norgate, Oxford.

Lesson VIII

UTILITY DEFINED

In the lessons that have preceded, opportunity has been given for the idea to emerge that the apparent chaos of business activity which one observes, especially upon the corner of a crowded city street, is only apparent, and that all these activities can be reduced to five or six well defined groups of activity. It has also appeared from the study of concrete business units, or enterprises, that, while there is great variety in form of organization and relationship of persons to the enterprise, the same functions appear in all enterprises whether they are all performed by one person or by many. As both of these results are in the direction of a perception of uniformity and simplicity and order in what at first seemed to be very complex phenomena, there remains one further step to take in the same direction. Can we not find some common purpose in the activities of all workers? Is it not possible to discover some principle of unity which will allow all workers to be thought of together? Are they all in fact doing fundamentally the same thing, namely, creating utility?

1. Write a brief but complete description of a typical day's work by some one intimately known to you.

2. What was the object, or objects, upon which at some time during the day he exerted his activity?

3. Tell, precisely, what change took place in this object as a result of the expenditure of the worker's energy.

4. How does the desirability of the object, to those in any way affected by the change, compare after the expenditure of energy with its desirability before? Is the object more or less desirable?

[Note.—The word "desirability" is here used not in an absolute sense, but as related to human wants. These wants are not always wise, or moral. "Primarily, and as a condition to his [man's] mere existence, he requires food, commonly, also, clothing and shelter. He has appetites for art, music,

philosophy, cigars, and vice. He desires comforts and luxuries, protection from the violence of nature, from the wrongs of men, and from the attacks of beasts and microbes. He wants his steak broiled and his clothes brushed. He likes to be preached to, and sung to. He wants books and boats, and racehorses, laces, parks, theatres, and eyeglasses, chairs, balloons, railroads, panoramas, fortune-tellers, phrenologists, and humbugs."[1]]

5. From the point of view, therefore, of desirability of the object worked upon, as different men judge desirability, what did the person really do, or attempt to do?

6. Show whether or not other workers, working for gain, from affection, or from a charitable motive, attempt to make a similar change in the objects they work upon. Give illustrations.

7. Write out a definition of the word "utility."

Lesson IX

FORMS OF UTILITY

It is the want-satisfying quality—utility, that the wants of mankind spur men on to try to produce. The question now comes, how is utility produced? Must men have materials in which to store this quality? If so, what is the source of these materials? How can men manipulate materials so that utility may be added to them? Is complete utility added to material by one worker as a rule, or does the same material pass through many hands in succession, each worker adding some utility? Since utility is a quality in material which satisfies the want of persons, may changes in human wants, as well as changes in objective materials, cause utility to emerge and disappear?

If the following specific questions are carefully answered, much light may be thrown upon the more general questions of the preceding paragraph.

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[1]Davenport, *Outlines of Economic Theory*, p. 14—1896, The Macmillan Co., New York.

1. What human wants are there that are sometimes satisfied directly by nature, without other effort by man than that required to appropriate what nature furnishes? Give as varied examples as possible.

2. When man does not have his want satisfied by nature, but creates this quality of satisfying want (utility), from what source does the material upon which he works, and in which he stores utility, come? Illustrate. Is there any other primary source?

3. Give examples of utilities that have been wholly created by the effort of one man, possibly in a succession of processes, or partial processes; give examples where two workers in successive processes have created utility; examples of three workers; more than three; the example where the whole process of creating utility is divided among the largest number of grades of workers known to you.

4. Define division of labor.

5. Give illustrations of division of labor among places; among persons.

6. Give in one word the kind of utility that is added to coal by being broken out of the solid vein, to clay when pressed into moulds to make brick, to stone when carved into a statue.

7. Give another word which describes the kind of utility created by carrying lumps of coal from a mine to a city.

8. Name in one word the kind of utility that coal possesses by being in a grate in December rather than in August, by having ice in the house in August rather than in December.

9. Give other examples of each kind of utility.

10. When the actor arranges scenes, costumes, attitudes, and facial expressions so as to send, on the vehicle of vibrating ether, intense satisfaction to the eye of the onlooker, show whether or not he creates utility; show whether or not he also creates utility when he sends pleasing sounds on the vehicle of vibrating air.

11. Give other kinds of utility if you can.

12. Is the spiritual uplift which comes from the preacher utility? Why? Is the legal advice which a lawyer gives to a client utility? Why?

13. Show that Phillips Brooks, as a preacher, and the boy who blacked his boots, were doing fundamentally the same thing.

14. If men feel new wants for things to which, though in existence before, they had been indifferent, do those things acquire utility? Why? Give examples. Do spinning wheels, old-fashioned furniture, etc., that once lay forgotten in garrets and lumber rooms, illustrate the point? Give reasons.

15. If men cease to care for some thing which they formerly wanted, does this lose utility to some degree? Why? Give examples.

16. What are the effects of fashion upon the utility of a commodity? Illustrate.

17. Discuss the following formula, and its interpretation as a convenient short statement of the truth about any productive enterprise. Do you think of any business enterprise that can not be included in the formula? Explain.

a. Society + man + capital + natural resources = utility.

b. A more accurate statement might be: Society, combined with

individual men, { As undertakers / As directed workers, }

combined with capital, combined with natural resources, may result in utility.

c. Which formula may be interpreted as follows: In subordination to the public opinion and statute laws of the community as a whole, individual men direct human energy in the use of tools and machinery upon the materials and forces which nature furnishes, in order to produce something to satisfy human want.

18. Do individual men ever carry on business enterprises for the production of utility in violation of public opinion and statute laws of society? Give examples.

19. Which is the more common method of carrying on business—subject to the will of society or in violation of it? Give reasons.

20. Do individuals ever cause changes in public opinion and in laws for the benefit of their own business? If so, how?

21. What is the harm of it?

22. How can it be helped?

[NOTE.—For a series of interesting articles entitled *The Conduct of Great Businesses*, consult "Scribner's Magazine," beginning January, 1897.

The subjects of the separate articles are: "The Department Store," "The Business of a Factory," "The Working of a Bank," "The Business of a Newspaper," "The Modern Business Building," "The Business of a Great Wheat Farm," "A Great Hotel."]

LESSON X

CLASSIFICATION OF UTILITIES

It often takes good thinking to be able to state clearly what it is that one does not understand. But, if the pupil strives to do this, he will often help not only himself, but others.

We have seen in the preceding lessons that man's wants range from the most primary physical wants to the highest spiritual ones. There is, therefore, good reason for calling every quality in matter which tends to satisfy any want, or tends to prevent the emergence of a want, a utility. There is, however, such a difference in the duration of utilities that it is worth while to give our attention to this difference. On the basis of the duration of utilities two great classes of goods may be formed.

1. When utility is stored in a bicycle, by how many persons in succession can it be partially appropriated?

2. Compare the utility of a book, of a house, of furniture, with that of a bicycle. Give other examples.

3. The utility of a bicycle is said to be potential.[1]

4. When utility is given to air by a sweet singer, or to ether by a fine actor, show whether or not this utility can be partially appropriated by many persons in successive moments, or hours. The vibrations of one rendition of the song, not the singer's vocal cords or power to sing, should be thought of.

5. Give other similar examples.

6. The utility of a song is said to be actual.[2]

7. Is the utility of clothing actual, or potential? Of fuel? Of food?

8. Is it hard to draw the line with accuracy between the two classes of utilities? Why?

9. Is it worth while to attempt to make the two classes? Why?

10. Is it hard to draw the line with accuracy between plants and animals? Give reasons.

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[1] "The utility of a commodity is said to be *potential* when the power of utilizing can be transferred any number of times." —Shirres, *An Analysis of the Ideas of Economics*, p. 241—1893, Longmans, Green, & Co., New York.

[2] "The utility of a commodity is said to be *actual* when the transferee merely receives actual benefit, enjoyment, or utility in the present." The same, p. 241.

"Everything that affects our senses, whether it be part of the external world in which men live, or a positive or negative act of one or more men with respect to another man, may be a commodity, *i.e.*, it may satisfy a want, extinguish a painful sensation, or engender a pleasurable one. What is necessary is, that what we consider a commodity should be brought to our knowledge, by means either of our nerves of general sensibility, or of our specific nerves; that is: it must either affect our sense of touch, appearing hard or soft, heavy or light, warm or cold, or else our senses of taste, smell, sight, or hearing. Hence we must regard as being equally commodities: bread, clothing, medical advice, the speech or pleadings of counsel, the credit embodied in a bill of exchange or contract, the vocal performance of a *prima donna*, the resort of customers to a place of business, the abstention from competition on the part of manufacturers restrained by the exclusive patent rights of another, the

11. Is it worth while to attempt to make two classes of living things? Why?

12. Define utility.

a. Actual.

b. Potential.

[NOTE.—A distinction should be made between utility which is a quality, and the material, or vehicle, in which utility resides or travels. Any material possessing utility may be called a "good" or "commodity." Goods possessing potential utility may be called "wealth," and goods possessing actual utility may be called "service." We buy the service of a teacher, singer, or preacher; and wealth from a farmer and a weaver, in potatoes and cloth.]

13. Give a list of twenty-five forms of service; of twenty-five forms of wealth.

14. Criticize the following classification of utilities with especial reference to the position of form, place, and time utilities:

Utility.
- Actual.
  1. Form.
  2. Place.
  3. Time.
- Potential.
  1. Form.
  2. Place.
  3. Time.

15. If the diagram is thought to be correct, give an example of a utility for each of the six numbers at the right of the diagram.

LESSON XI

PRODUCERS AND NON-PRODUCERS

The purpose of this lesson is to delay the mind still longer upon the processes by which men create utility, and to bring out as clearly as possible the distinction between producers

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abstention from bidding at an auction on the part of capitalists restrained by some (possibly altruistic) interest, and the discoveries of the scientific investigator."—Pantaleoni, *Pure Economics*, pp. 63-65—1898, The Macmillan Co., New York.

and non-producers. Until recent years the common view was that only those persons who were producers of wealth, engaged in storing utility in some material which allowed men to be a long time in appropriating it, were productive. A more recent view is that any person who succeeds in creating utility is a producer, whether that utility be a fleeting service or an enduring form of wealth. Only those persons who for some reason fail to create utility are non-producers. In judging of children and the aged as producers or non-producers, will you think of their whole lives or of a few years only? Why?

1. Which class of utilities (actual or potential) does the extractor usually produce? Illustrate for typical extractors.
2. Which class does the transformer produce?
3. The transporter?
   a. In carrying goods?
   b. In carrying persons?
4. The transferrer?
5. The servant?
6. The parasite?
7. Illustrate for each group.
8. Show whether the net result of a true parasite's life is to increase, or decrease, the utilities of the world.
9. Is his life productive or non-productive? Of what?
10. Suppose a man tries to sing, and fails; is he, so far as this effort is concerned, productive or non-productive? Of what?
11. If a man tries to make a new machine, and fails; is he productive or non-productive? Of what?
12. Define producer. Non-producer.
13. Are most of the mothers and housekeepers in our homes, who are not reported in the Census as engaged in gainful occupations, producers or non-producers? Of what? What have you to say of children and the aged?
14. Criticize the following diagram:

- **Goods having utility.**
  - **Natural.**
    - Having actual utility.
      - Rainbows.
      - Cooling breezes.
      - → Natural service.
    - Having potential utility.
      - Fertile soil.
      - Mines.
      - Standing timber.
      - → Natural wealth.
  - **Modified by man.**
    - Having actual utility.
      - Music.
      - Instruction.
      - Hair-cutting.
      - → Human service, service proper.
    - Having potential utility.
      - Houses.
      - Cultivated soil.
      - Tools.
      - Books.
      - → Wealth proper.

15. Criticize the following diagram:

ECONOMIC CLASSIFICATION OF MEN

- **Men.**
  - ***Servants.*** Producers of utility.
    - Those who serve as directly as possible – produce *actual* utilities.
      - Servants usually so-called.
        - Personal.
        - Domestic.
        - Public.
        - Professional.
      - Transferrers.
      - Transporters of persons.
    - Those who serve less directly—produce *potential* utilities.
      - Extractors.
      - Transformers.
      - Transporters of goods.
  - ***Dependents.*** Non-producers of utility.
    - Those who are able to serve—to produce utility—and yet are dependent from choice. → Parasites.
    - Those who are unable to serve—to produce utility—through misfortune or inability.
      - Defectives,
      - the unfortunate poor,
      - etc.

Lesson XII

DEFINITIONS

In making the following definitions, if the pupil depends more upon his own thinking than upon any definitions found in a book, he will be the gainer. His attention has been called in the preceding lessons to all the realities for which these words are names. He, therefore, now has the difficult but definite task of trying to make his definition of each word include all the individuals that belong to that class, and none that do not.

Plato's well-known definition of man as "a two-legged animal without feathers" was faulty, because his pupil could bring to him a plucked fowl, and say, "Your definition makes this a man." The definition was too inclusive. On the other hand, a definition of man which would apply to Anglo-Saxon men only would err in the other direction of not being inclusive enough. A perfect definition of man would include all animals that are men, and exclude all animals that are not men. Oftentimes a perfect definition cannot be made: a good one always requires good thinking.

1. Define and illustrate the following words:

a. Extractor.
b. Transformer.
c. Transporter.
d. Transferrer.
e. Servant.
f. Dependent.
g. Landlord.
h. Capitalist.
i. Undertaker.
j. Laborer.
k. Utility.
l. Actual utility.
m. Potential utility.
n. Production.
o. Consumption.
p. Division of Labor.
q. Service.
r. Wealth.
s. Parasite.

2. If the machine shops of a railway company are taken as an illustration of a transforming enterprise, it is found that

transforming enterprises in general require the following functions of persons:

Transforming Enterprises	Society function Landlord function Capitalistic function Undertaking function Ordinary labor function.

Choose a typical business in the extractive group, transferring group, transporting group, and servant group, and ask, in each case, whether or not the enterprises of the group require all of the same functions as those given above. Do you find any exceptions? Explain.

Lesson XIII

OWNERSHIP AND PROPERTY

The observation and thought of the class have now been directed to the great mass of humanity about them as composed of men and women who, from the economic point of view, are busily engaged in the process of satisfying their wants by producing and consuming a great variety of utilities. It is also a well-known fact that some utilities which men consume they themselves produce, but that in a majority of cases men expect to give up goods possessing the utility which they have produced in excess of their own wants, to others, in exchange for the different kinds of goods possessing the utility that others have produced. Consideration will be given later both to the subject of original production, and the facilities for exchange of goods. Just at this point the fundamental importance of ownership is to be emphasized. Ownership was mentioned in Lesson VI, and the word is familiar to everybody; but perhaps some fail to realize how fundamental it is to existing methods of getting a living. In fact, almost all modern processes of creating, exchanging, and consuming utilities rest on the foundation of private property, or ownership. It is interesting to try to understand what private ownership really means and what are its alternatives.

1. Look up the meaning of property right and ownership in the dictionary and the encyclopedia.

2. Show that ownership means at least the right to use in one's own person the thing owned.

3. If a person owns land, must he cultivate it himself if he is to get any utility from it? If not, in what other ways can he get utility out of it?

4. If a man owns a thing, must he continue to own it? If not, name the ways by which he may dispose of it during his life.

5. Does he have power to say what shall be done with his property after his death? Illustrate.

6. The Roman lawyers defined full ownership to be *jus utendi*, *fruendi*, *et abutendi*. Translate and illustrate each part of this definition.

7. Who may own property in the state in which you live? Give authority.

8. Make a list of typical things which an American citizen may own in your state.

9. What things are there in your town that private citizens do not individually own? Make a list of them.

10. To whom do they belong? What kind of property are they?

11. What things about you are not represented in either of the above lists?

12. Make an estimate in money of the value of public—social—property in your town, city, county, or state. Is such property increasing?

13. If some things are not fully owned by anybody, why are they not?

14. Is the list of things that may be private property, the same in all countries at the same time? In the same country at different times? Illustrate.

15. Who decides this in the United States?

16. Give examples from history for each answer in 14.

17. What kind of ownership does socialism propose? Communism? Anarchy?

Lesson XIV

STATUS AND CONTRACT

It is the purpose now to call attention to the great number of agreements, bargains, or contracts, that determine the economic relations of men to each other. In the days of slavery and serfdom the relations of these classes to their superiors were largely determined by birth, custom, or mere status of the parties concerned. It may be objected that the conditions under which many men make contracts to-day are such that they live very hard lives, but the fact, nevertheless, remains that in form their lives are lived in fulfilment of certain agreements that they themselves make. Some reasons why they sometimes can not make better bargains will be briefly discussed later.

1. Look up the meaning of the words "status" and "contract" in the dictionary.

2. What freedom do men in your state have to make any kind of contract with each other they choose? Give examples of limitations.

3. Give examples of relations between persons which are determined by a contract, verbal or written.

4. Apply the words status and contract to explain the difference between a slave in the United States before the war, and the condition of men who work for salaries or wages, now.

5. Enumerate the particulars, if any, in which the economic condition of the slave was better than that of the workman of to-day.

Keep these facts in mind if you ever hear the phrase "passing from the condition of status to that of contract."

6. Show the relation between the fact of private property in its full sense (the right to dispose of, to possess and use in person, and to enjoy the fruit of), and the fact that some men begin their business lives as employers and others as employees.

7. Among a people who subsist by hunting are some persons employed and some employers, as among us? Why?

8. Show the relation between the right of private property

and the fact of the existence of a so-called "idle rich class" in modern society.

9. How does this class get a living?

10. Show that the goods which come to men as landlords, capitalists, undertakers, and wage-workers are dependent upon the right of private property and a large freedom of contract.

11. Show that the right of private property and large freedom of contract are fundamental to the existing business relations and enterprises of extractors, transformers, transferrers, transporters, and servants.

Lesson XV

ECONOMIC TERMS

The proof of understanding is right use. Some new words, and other more familiar ones having technical meanings, have been introduced in the foregoing lessons. May not each now be used correctly in a continuous narrative? This need not be long, but each word should be used accurately in its technical sense, if there is a difference between this and its ordinary meaning.

Write the complete history of the making of a loaf of bread, a pair of shoes, a coat, or some other common article. The essay should contain appropriate mention of the activity of men in each of the first five economic groups, extractive, transforming, etc.; also the words, utility, consumption, ownership, production, private property, contract, undertaker, capitalist, landlord, workman, want, service, wealth, division of labor, rent, interest, wages, money, profits, and value.

Lesson XVI

GRAPHIC STATEMENT OF INDUSTRIAL FACTS

As men are, as a rule, engaged in the production of utilities in order that they and those dependent on them may themselves consume those utilities, or other utilities which they get in exchange, it is an interesting question to ask how

men compare with each other in the value of utilities which finally come to them for consumption. To this end a compilation of answers to the following questions will be found to contribute much:

1. Name of the occupation reported upon?
2. Under whose direction does the person work?
   - *a.* His own?
   - *b.* A single employer?
   - *c.* A private corporation?
   - *d.* A public corporation (town, city, state, etc.)?
3. What are his hours of work and leisure?
   - *a.* Hours actually at work per day?
   - *b.* Hours daily in going to and from work?
   - *c.* Hours of holiday per week, excluding Sunday?
   - *d.* Hours of work on Sunday?
   - *e.* Length of annual vacation for which the worker is paid at whole or partial rate of regular payment?
4. Detailed program of a typical day's work?
5. How paid?
   - *a.* Amount of payment per month?
   - *b.* How is this determined (piece-wages, time-wages, commissions, etc.)?
   - *c.* How often paid?
   - *d.* Form of payment (currency, check, truck, etc.)?
6. Effect of occupation on the worker?
   - *a.* Physically?
   - *b.* Mentally?
   - *c.* Morally?
7. Number of persons dependent upon earnings?
8. Contented, or discontented, with the person's own reasons for either?
9. Summarize the answers of different members of the class upon the following diagram:[1]

[1]The diagram may be so enlarged as to give a line for each student's report.

	Name of occupation.
	Economic group.
	For whom working.
	Hours of work per day.
	Hours to and from work.
	Time for luncheon.
	Hours of holiday per week.
	Work on Sunday.
	Length of annual vacation.
	Amount of wage per month.
	How determined.
	When paid.
	In what form paid.
	Physical effect of work.
	Mental effect.
	Moral effect.
	Number of persons dependent.
	Contented.
	Worker's reasons.

Lesson XVII

STATEMENTS AND QUESTIONS

1. Read all the items in each vertical column in succession.

2. Make a statement after each column is read. For example, after reading items under "hours of work per day," the statement might be: "The workday of some men is much longer than that of others;" and after reading the items under "amount of wages per month," the statement might be: "There is a variation in wages, among the people here described, from $— per month to $— per month."

[Note.—Each of these statements is simple by itself, and its truth was probably known before, but when the statements are all put together and we realize that persons actually known to members of the class show variations in industrial condition in from fifteen to twenty-five particulars, these simple statements become interesting and demand of us that we try to find out why they are true.]

3. Compare all the facts given about one person with all the facts given about another person; that is, read one line and compare carefully with another line, and make other statements, as in 2, as to differences in economic condition.

[Note.—Avoid all such general statements as "Those who do mental work get more pay than those who do manual work," and "Janitors get less pay than any other class of persons." Such statements may be true for the persons described in a given diagram, but are these persons numerous enough to warrant such sweeping statements? Statements should be made in such a form that they will remain true no matter how many more cases may be investigated.]

4. Make out also a list of questions suggested by the diagram, but not necessarily answered by it. Make this list as long and as sensible as possible. It is surprising to see how many excellent questions as to causes and results of the facts shown on the diagram can be asked. As many as forty have been made by one class.

Lesson XVIII

ILLUSTRATION AND COMPARISON OF PRICES

We are all familiar with the common practice of comparing all sorts of goods with one good (and representatives of this good), called money, to find prices. Whenever a person decides upon the least amount of money which he will take for a good, there is a case of "seller's price." Whenever a person decides upon the largest amount of money he will give for the good of another, he furnishes an illustration of "buyer's price." But there is another price which is not so well understood as these two, namely, "market price"; and, although more will be said about price later, it is possible to study some examples here.

1. Read in the market column of several daily or weekly papers the prices of the goods or commodities most commonly sold from your locality.

2. Make note of the different prices for the same commodity on different dates, with reasons for the differences, if they are given.

3. Ask men who have commodities to sell what use they make of these market prices. Ask the same question of people who wish to buy.

4. Give illustrations of what happens to commodities of your locality when the market prices have been going up for several weeks.

5. Give examples of the result when prices have been going down for several weeks.

6. Give the names of as many institutions as you can which "fix" from day to day the market prices of meats, grains, vegetables, steel, wool, cotton, lumber, coal, unskilled service or labor, skilled labor, etc.

7. Show whether the producers of some of these goods are helped or hindered in disposing of them, by these institutions.

8. Ascertain if these institutions perform a genuine service for the buyers and sellers. Decide whether or not such institutions produce utility.

9. Show that the market prices of one commodity are of interest to producers over a wider area than the market prices of another.

10. Give an example of a commodity whose market price affects the largest area of producers. An example of a commodity whose price affects the smallest area.

11. What makes the difference?

12. How do these market prices compare at different times with what buyers are ready to pay and with what sellers are ready to take; in other words, with buyers' and sellers' prices?

13. Does a sale at a market price ever benefit both buyer and seller? If so, how much? Explain.

14. Suppose market prices are lower than sellers' prices for several years in succession, how does this affect the amount of the commodity produced?

15. Suppose the opposite is true, how is the amount affected? Why?

Lesson XIX

STATISTICS OF PERSONAL CONSUMPTION

By means of money it is possible to compare roughly the amounts of utility enjoyed or consumed by different people. Our own place in the scale of consumers is of special interest.

1. Under the headings given below, make an estimate of the price of goods consumed by you personally during a year. This report need not be signed.[1]

a. Shelter,—rent of place (or interest on value of place and furniture, plus taxes, plus insurance), divided by the number in the family.

b. Food,—grocery bill, plus meat bill, plus ice bill, etc., for the year, divided by number in the family.

[1]The author is indebted to Mr. E. E. Hill, of the Hyde Park High School, Chicago, Illinois, for this exercise.

c. Fuel and Light,—total cost divided by number in the family.

d. Personal Services,—wages of servants divided by number in family, plus services paid for private teachers, cost of public school per pupil to the taxpayers, etc.

e. Clothes.

f. Recreation and sundry expenses.

g. Total.

2. Summarize the results for all the members of the class, and find an average. Compare this average with:

a. The prices of goods consumed by some of the persons reported on in diagram made as suggested in Lesson XVI.

b. The following statistics of income:[1]

INCOME OF THE UNITED STATES

FAMILY INCOME.	NUMBER OF FAMILIES.
$5000 and over	200,000
$5000 to $1200	1,300,000
Under $1200	11,000,000
	12,500,000

c. The facts stated in "Hull House Maps and Papers,"[2] where many families are represented as getting less than five dollars per week for a family of about five persons.

3. Find what per cent the expenditure under each head is of the total, and compare it with the following statistics for the United States and for Europe:[3]

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[1]Spahr, *An Essay on the Present Distribution of Wealth in the United States*, p. 128—1896, T. Y. Crowell & Co., New York.

[2]1895, T. Y. Crowell & Co., New York.

[3]Bullock, *Introduction to the Study of Economics*, pp. 100, 101—1897, Silver, Burdett & Co., Boston.

UNITED STATES

Object of Expenditure.	Income under $200.	Income $300 and under $400.	Income $500 and under $600.	Income $700 and under $800.	Income $900 and under $1000.	Income $1200 and over.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Rent	15.48	14.98	15.15	15.60	14.96	12.59
Fuel	7.07	6.04	5.63	4.42	4.00	2.57
Lighting	1.01	.98	.97	.88	.74	.45
Clothing	12.82	14.14	15.27	16.33	16.84	15.71
Food	49.64	45.59	43.84	38.89	34.34	28.63
All other purposes	13.98	18.27	19.14	23.88	29.12	40.05

EUROPE

Object of Expenditure.	Income under $200.	Income $300 and under $400.	Income $500 and under $600.	Income $700 and under $800.	Income $900 and under $1000.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Rent	9.38	11.93	10.26	9.49	10.49
Fuel	5.38	5.49	3.32	3.97	5.19
Lighting	1.66	1.59	1.37	1.20	1.53
Clothing	19.08	14.18	15.21	18.97	14.15
Food	48.32	49.58	50.06	44.00	46.24
All other purposes	16.18	17.23	19.78	22.37	22.40

[Note.—Statistics like the above may be made much more interesting and useful to the class if several persons, perhaps all members of the class, make graphic statements of them after their own plans on ruled note-paper.

Conclusion

Thus far the observation and thought of the student have been primarily directed to the various forms of human activity that are all about him rather than to printed accounts of these activities.]

Human wants, ranging from the lowest physical to the highest spiritual ones, have been pointed out as the stimuli of human effort.

That quality in matter which tends to satisfy any human

want, whether furnished directly by nature, or by nature aided by man, has been called utility.

Goods possessing utility have been grouped into two great classes, services and wealth.

From an economic point of view, the great majority of men and women have been seen coming out of an apparent chaos of occupations, to take definite and orderly places in a great industrial organization whose perpetual activity, from extractor to servant, results in never-ending and reciprocal streams of utility for the partial satisfaction of their multiplying wants. From these great streams of utility in the forms of service and wealth, the non-producers as well as the producers take; but to these streams, only the producers give in return. Parasitism is not confined to the vegetable world. At the best, a producer is usually served by a larger army than the one to whom his product flows.

"If a cross section showing a single day in the life of a civilized man could be exposed, it would disclose the services of a multitude of helpers. When he rises, a sponge is placed in his hand by a Pacific Islander, a cake of soap by a Frenchman, a rough towel by a Turk. His merino underwear he takes from the hand of a Spaniard, his linen from a Belfast manufacturer, his outer garments from a Birmingham weaver, his scarf from a French silk grower, his shoes from a Brazilian grazier. At breakfast his cup of coffee is poured by natives of Java and Arabia; his rolls are passed by a Kansas farmer, his beefsteak by a Texan ranchman, his orange by a Florida negro. He is taken to the city by descendants of James Watt; his messages are carried hither and thither by Edison, the grandson by electrical consanguinity of Benjamin Franklin; his day's stint of work is done for him by a thousand Irishmen in his factory; or he pleads in a court which was founded by ancient Romans, and for the support of which all citizens are taxed; or in his study at home he reads books composed by English historians and French scientists, and which were printed by the typographical descendants of Gutenberg. In the evening he is entertained by German singers who repeat the myths of Norsemen, or by a company of actors who render the plays of Shakespeare; and, finally, he is put to bed by South Americans who bring hair, by Pennsylvania miners

and furnace workers who bring steel, by Mississippi planters who bring cotton, or, if he prefers, by Russian peasants, who bring flax, and by Labrador fowlers who smooth his pillow. A million men, women, and children have been working for him that he may have his day of comfort and pleasure. In return he has contributed his mite to add a unit to the common stock of necessaries and luxuries from which the world draws. Each is working for all; all are working for each.'"[1]

The fundamental importance of the right of private property in many things has been emphasized by suggesting that the exercise of this right is the foundation on which the present organization of industry rests.

The universality of business bargains, or agreements, called contracts, as a means of determining the economic relations of men to each other, has also been clearly suggested.

The following economic groups of people have been identified and are all found in most communities:

1. Extractors.
2. Transformers.
3. Transporters.
4. Transferrers.
5. Servants.
6. Dependents.

Also, in each concrete business enterprise within the first five groups, the following factors have, as a rule, been found requisite to the production of utility.

I. The primary factors (historically considered).	1. Man.
	2. Natural resources.
II. The secondary factor (derived from land, or natural resources, by man's previous effort).	3. Capital.

[1]Harris, *Moral Evolution*, pp. 36, 37—1896, Houghton, Mifflin & Co., Boston. For a masterly description of the process of contemporary production, compare Taussig, *Wages and Capital*, ch. i —1896, D. Appleton & Co., New York.

The persons who furnish these factors to productive enterprises have been called:

1. Undertakers.
2. Laborers.
3. Capitalists.
4. Landlords.

The suggestion has been made that individual productive enterprises, most of the methods by which different persons are getting a living, are more or less modified by the will of society as this will is shown in fashion, custom, usage, and law.

With these economic facts and their interrelations, as the student has seen them and thought about them in connection with actual industrial processes, as clearly in mind as possible, Part II may now be read. The six-fold grouping which has become so familiar, the persons who furnish the factors in production, society, and the ideas of ownership and contract, will be used as general heads under which to group some of the most significant facts of more than eight hundred years of industrial history. The main question to be answered is, How have successive periods of the life of man, in England and the United States, differed from our own period in respect to these economic groups, in respect to the factors of production, and in respect to their ideas and practices concerning private property and contract? How has the industrial life of previous periods differed from the industrial life of the present?

PART II

OUTLINES OF THE INDUSTRIAL HISTORY OF ENGLAND AND THE UNITED STATES

CHAPTER I

THE HOME, OR FAMILY, PERIOD OF INDUSTRY IN ENGLAND

Introduction with Suggestive Questions.

Since the Conquest, there have been, in England, four great periods of industry so different from each other that they have been given distinct names. These are: The Home, or Family, Period; the Gild Period; the Domestic Period; and the Factory Period.[1] The transforming group of occupations is the one whose peculiarities of organization at different times have suggested the above names.

A chapter will be devoted to the chief characteristics of industry as a whole, in each period.

1. Find out as much as you can about the industrial life of the time when the old people you know were children, and of the time when their parents were children. For example, get answers to as many questions similar to the following as possible:

a. What kinds of crops were raised on the farms, and with what tools?

b. How much of the harvest was used at home, and how was the rest disposed of?

c. Who made the cloth and the shoes used in the

[1] Ashley, *An Introduction to English Economic History and Theory*, vol. II, pp. 219, 220—2d ed., 1893, G. P. Putnam's Sons, New York.

family? With what tools? Who furnished the materials?

d. How were the persons paid who did this work?

e. What journeys were taken? How did people travel? What were some of the probable events of these journeys?

f. What kinds of money were used? Was it convenient? Why?

g. How were letters, packages, and heavy goods sent to distant persons and places? At what cost?

h. What kinds of goods were sent long distances? Why?

i. How were people amused, taught, preached to, and taken care of when sick?

j. What were some of the largest business enterprises of the locality?

k. What prospects did young men have of "setting up in business" for themselves, becoming their own undertakers?

l. What capital was needed?

m. Why were boys apprenticed, and how was it done?

n. Were men who worked for wages thought by their employers to be inferior socially? Why?

o. What were the occupations of young women? Why?

p. Make a list of services that we can buy now that could not be bought then.

q. Make a list of potential utilities, forms of wealth, that we use commonly which were then unknown.

2. Write a sketch (partly imaginary) of the life of your great-grandfather, describing his food, clothing, shelter, education, travels, amusements, occupations, etc.

3. Imagine your great-grandmother a guest in your home for a day or a week, and write a sketch of her experiences in the midst of your industrial life of production and consumption of utilities.

4. Make a brief statement which shows as clearly as possible the great contrast between the industrial life of to-day and that of one hundred years ago.

Manors and Towns in England in 1086.

When William the Conqueror (1066-1087) took a census of the population of England, in 1806, in order to find out who his taxpayers were and how much his tax collectors ought to collect from them, it was found that about ninety per cent of the one and one-half million people[1] were connected with the occupation of agriculture upon the various manors that dotted the otherwise wooded and waste surface of England. About eighty of these manors,[2] in addition to their agricultural population, included enough other people so that they can accurately be described as towns. Not more than one-tenth of the population, however, were found in these overgrown manors which were fortified and called towns. If, therefore, we can get some definite idea of a typical manor of the time we have only to enlarge the picture and add some details to give an idea of the town also.

Bird's-Eye View of a Manor.[3]

If an observer were upon the top of some high hill, looking down upon an old English manor, he would see one straight street with little houses on each side and a larger house at one end or near by. Stretching away from this little village would lie ploughed fields, each divided into acre, or half-acre, strips, usually forty rods long, by four, or two, rods wide, and separated from each other by an unploughed "balk" of green turf. All of the strips in one field extend in the same direction and lie side by side, but the strips in adjoining and distant fields lie at all angles with the strips of the first field, and the different fields are separated from each other by broader "balks" of turf that are usually all overgrown with bushes. The whole

[1]Seebohm, *The English Village Community*, pp. 86, 87, map—3d ed., 1884, Longmans, Green, & Co., New York.

[2]Ashley, vol. I, pp. 68, 69.

[3]The same, vol. I, pp. 6, 7. Compare Seebohm, pp. 1-29.

arable surface of the manor, therefore, divided thus into thousands of ploughed strips grouped into separate unfenced fields at all angles about the village street, looks somewhat like a huge "spider's web." Beyond the ploughed land, or along the banks of a stream, if one flows through the manor, are grass lands for the hay harvest; further out still is the common pasture for the village cattle; and beyond all else is the forest, into which the swine are driven to feed upon the roots and nuts, and which stretches far and dark and isolating toward other manors that lie scattered here and there in the immense waste of moor, fen, and wood which make up the England of King William's time.

Explanation of the View.[1] Now the explanation of this bird's-eye view of a manor lies in the relation of its inhabitants to each other and to the soil. The little cottages along the two sides of the straight street are the homes of the tenants, while the larger house near one end of the street is the manor house in which the lord of the manor, or his representative, lives. The numerous fields of long and narrow acre, or half-acre, strips, are the cultivated land which is divided among the tenants and the lord in a curious way. For example, if the names of the tenants are A, B, C, D, E, F, etc., the strips of each field belong to A, B, C, D, E, F, etc.; but often not more than one strip in a place belongs to the same tenant. The lord also, in addition to the solid acreage of land about the manor house, often holds single strips of land scattered over all the various fields of the manor, side by side with the strips of his tenants. The grass land by the riverside is also divided into as many plots as there are tenants. The pasture and forest on the outside of the ploughed land are used, as a rule, by lord and tenants in common, and are not divided. The lord's lands are called the "demesne lands," and the ploughed fields with their strips running in all directions are the "open fields."

[1] Authority for the historical statements of this chapter, unless otherwise stated, may be found in Seebohm and Ashley.

The Method of Cultivation.[1]

The farmers of this day were not very familiar with the art of fertilization of the soil and, of course, knew nothing of agricultural chemistry, so they used to let their fields rest—"lie fallow," a part of the time. Sometimes they let a field lie fallow one year and cultivated it the next, which gave them the use of only half the ploughed land each year. This was the "two field system." Again, they sowed a field for two years in succession and let it rest the third, thus having in use each year two-thirds of all the ploughed land. This was called the "three field system."

By either system the land was not economically used and no man could cultivate his strips in a different way from that of his neighbors. The whole community was bound in the bonds of a common method of agriculture. No ambitious tenant could, without the consent of his neighbors, improve the crop and method of cultivation of his particular strips, because the cattle were allowed to graze over all the arable land of the manor that was lying fallow, and even upon the rest of it in the autumn, after the harvest had been gathered. The careless farmer was able, by virtue of his scattered holdings, to sow the fields of the whole manor, including those of the lord, with seeds of noxious weeds; and the quarrelsome man was able, by virtue of the same peculiarity of holding land, to keep up a perpetual dispute with many neighbors over real or alleged encroachment upon the turf divisions between holdings, about right of way along the headlands, and about paths made through the growing grain.

The origin of this scattered strip system of holding and working land is variously explained, but probably was due to the fact that once the lands of the community were periodically, perhaps annually, assigned to the individual members, each person getting strips in all parts of the cultivated area, in order to give to all the benefits of each specially fertile section.

[1]Cunningham and McArthur, *Outlines of English Industrial History*, pp. 172-174—1895, The Macmillan Co., New York.

When the periodical assignment was given up and the same strips were occupied year after year by the same man, and perhaps by his son after him, the land of each man became permanently but definitely scattered. Whatever the origin, this was the universal system of landholding at the time of Domesday Survey; and, what is still more remarkable, the system was not wholly given up until the nineteenth century was well begun.

Classes of Tenants.[1] Although there were various classes of tenants upon these manors ranging from men who were nearly freemen in the modern sense of the word, to others who were little more than slaves; the most numerous class was composed of "villeins" who were about midway between slavery and real freedom. Most of the tenants who were the nearest free were upon the manors in the Danish counties of northeastern England. The names "socmen" and "freemen" were often applied to them. Most of the "servi," or slaves, were found in the southwestern manors. There were also many "bordars," or "cotters," who held less land than the villein on similar conditions.

The typical villein held fifteen or thirty acres of ploughed land, called a half-virgate or a virgate, scattered as we have seen in strips all over the manor. He also had a little cottage, usually with a garden, on the village street; an allotment of grass land sufficient to cut hay enough to feed his cattle during the winter; the right to pasture a certain number of cattle upon the common pasture during the summer; and the right finally to let his swine feed in the surrounding forest, from which he could also collect the necessary firewood.

The Conditions upon Which the Villein Held His Land. *a. The "Heriot."*—It will be remembered that William I. was a feudal monarch, and after the Conquest claimed jurisdiction over all the land of England. Some of it, although containing manors and towns, he laid waste to make for himself a mighty

[1] Vinogradoff, *Villeinage in England*, pp. 132, 177, 220—1892, The Clarendon Press, London.

hunting ground; some of its manors he cultivated himself after the methods of that day; while other manors were allotted to his followers, one or more to each person, on condition of their giving him military service and other payments in return. The inhabitants of each manor were in turn expected to render the lord of the manor certain services and make certain payments, in return for protection and the right to cultivate their various holdings. The most important person connected with each manor, therefore, was the lord, whether this was the king himself, as in the case of the 1,422 manors held directly by William in 1086, or some follower of the king as upon other manors.

The villein, therefore, was not the full owner of his land, but held it upon a grant from the lord of the manor, sometimes for life and sometimes for a term of years, in accordance with the custom of the manor for that particular holding. When this grant expired the title reverted to the lord, who could, in theory perhaps, regrant it to whom he would. In practice, however, the holding was usually regranted undivided to the tenant himself, and, when he died, to his eldest son. This regrant was usually conditioned upon the payment to the lord of a "heriot," or "relief," consisting of an ox, the money value of the same, or some other similar payment.

It will be observed that this payment, which was of the nature of an inheritance tax, did not give the villein power to sublet his holding without the lord's permission, much less to dispose of it absolutely by gift, by sale, or by bequest. What the villein obtained was simply the right to make use of land in his own person.

b. Weekly Work: "Precariæ," or "Boon-days": Payments in Kind or in Money.—The following minute record of the services of two villeins in the thirteenth century is given by Mr. Seebohm, and quoted here in full in order to show how detailed the duties of a villein were.[1]

[1] pp. 42, 43.

EXAMPLES OF VILLEIN SERVICES

Oxfordshire			*Huntingdonshire*
Of a villanus holding a virgate.			Of a villanus holding a virgate.
A. B. holds a virgate and owes—			A. B. holds 1 virgate in villeinage—
			By paying 12d. at Michaelmas.
82 days' work (about 2 days a week) between Michaelmas and June 24, valued at ½d.= ...	s. 3	d. 5	By doing works from Michaelmas to Easter with the exception of the fortnight after Christmas, viz., 2 days each week, with one man each day.
11½ days' work (rather more than 2 days a week) between June 24 and August 1, valued at 1d.=		11½	Item, he shall plough with his own plough one selion and a half on every Friday in the aforesaid time.
19 days' work (2½ days a week) between August 1 and Michaelmas, valued at 1½d.=.....	2	4½	Item, he shall harrow the same day as much as he has ploughed.
			He shall do works from Easter to Pentecost 2 days each week, with one man each day.
6 precariae, with one man, valued at.....		12	And he shall plough one selion each Friday in the same time.
1 precaria, with 2 men, for reaping, with food from the lord, valued at.....		2	He shall do works from Pentecost till August 1, for three days each week with one man each day, either hoeing the corn, or mowing and lifting (levand).
Half a carriage for carrying the wheat.....		1	He shall do works from August 1 till September 8, for 3 days each week, with two men each day.
Half a carriage for the hay		1	
The ploughing and harrowing of an acre.....		6	He shall make one "love bonum" with all his family except his wife, finding his own food, and from September 8 to Michaelmas he works 3 days each week with one man each day.
1 ploughing called "groserthe"		1½	
1 day's harrowing of oat (land)		1	
1 horse (load) of wood...		½	He shall carry (with a horse or horses) as far as Bolnhurst, and from Bolnhurst to Torneye.
Making one quarter of malt and drying it.....		1	
1 day's work at washing and shearing sheep, valued at.....		½	Also he gives ½ bushel of corn as "bensed" in winter time.
1 day's hoeing.....		½	Also 10 bushels of oats at Martinmas as "fodder-korn."

	s.	d.	
3 days' mowing.....		6	Also 7d. as "loksilver," that is for 2d. a loaf and 5 hens.
1 day's nutting		½	Also 1d. on Ash Wednesday, as "fispeni" (fishpenny).
1 day's work in carrying to the stack.....		½	Also 20 eggs at Easter.
Tallage once a year at the lord's will.			Also 10 eggs on St. Botolph's Day (June 17).
			Also in Easter week 2d. towards digging the vineyard.
			Also in Pentecost week 1d. towards upholding the milldam (stagnum) of Newstone.
			If he sell a bull calf he shall give the lord abbot 4d. and this according to custom.
			He gives "merchetum" and "herietum" and is tallaged at Michaelmas according to the will of the said abbot.
			He gives 2d. as "sumewode silver" at Christmas.

The Villein a Serf. If the foregoing account of villeins' services and payments to their lords be typical, as there is no doubt they are, it can be seen at once how servile their position was. Obliged to make a payment in order to come into possession of a virgate or half-virgate to begin with, the villein was henceforth unable to leave the manor, to sell an animal, or to give his daughter in marriage, without gaining the consent of his lord, and, usually, paying some fine. After devoting from two to three or more days per week throughout the year, and extra days, sometimes with an extra man or two, at harvest and other times of extra need, to the service of his lord, the time that was left could be given to the cultivation of his own virgate in order to gain his own subsistence and the wherewithal to pay the further taxes due the lord by custom or exacted at his caprice. Such was the typical condition of the villeins mentioned in the Domesday Survey of William the Conqueror.

The Seneschal or Steward.

It has already been stated that the king at the time of the Survey was the direct lord of many manors; and that in certain other cases several manors were granted to one person. In these cases, of course, the lord could not give adequate personal superintendence to all his estate, especially as it was the policy of the Conqueror to give to one man the lordship of manors in different parts of England, rather than in a group. Therefore, the services of a general superintendent of several manors was performed for the lord by a "seneschal" or "steward." It was his duty to settle all questions of rents, services, markets, seed for the different manors, etc. He performed these duties, partly by overseeing the work of the lord's agent on each manor, and partly by holding the manorial courts.

The Bailiff and Reeve.

The local agent of the lord for each manor was the "bailiff" who was to look after the lord's interest in every detail; for example, he was to see to it that the villein put in a good day's work, worked the required number of days weekly, and gave his boon-day service at the right time. He inspected the woods, pastures, and fields, and directed in detail all the work on the lord's demesne.

Under the bailiff was the "præpositus" or "reeve," who was elected by the other tenants and who saw to it in general that the villeins did their customary work well. It must be supposed also that he, to a certain extent, took the part of the tenants if there was danger of their being unjustly treated.

Thus, under the eyes of the lord's trusted men, the villeins joined their oxen for ploughing the scattered strips of the lord's demesne; sowed, cultivated, and harvested the lord's grain; cut his hay from the common meadow; and hauled firewood from the forest to the manor house.

Extractive Industries Other Than Agriculture.

Not only was the extractive group of occupations of more industrial importance than all the other occupations of the time; but agriculture, according to the methods described, was the most important of the extractive industries. Even the inhabit-

ants of the largest towns were many of them holders and cultivators of scattered strips of land outside the town walls.[1] At first many townsmen even gave weekly and boonday labor on the lord's demesne lands in return for their own holdings, since every town belonged to some lord's estate just as if it were only a manor.

In comparison with agriculture, therefore, the other extractive industries amounted to little. Some tin was mined in Cornwall and the Scilly Isles, a little lead in Derbyshire; and coal was picked up in many places. Such primitive methods prevailed that man was practically helpless in his attempts to assault the mineral stores of the island. Of course, many persons fished a little, some hunted, and everybody secured firewood and rude timbers from the extensive and isolating forests about them.

Transforming upon the Manor.

The tenants of a manor built their own rude dwellings, dried the skins of their slaughtered animals for their own use, and wove rough linen and woolen cloth from which they made their own simple clothes. There was also a smith who kept the ironwork of the village ploughs in order, and a carpenter who made and repaired the woodwork of ploughs, harrows, etc. These men were themselves often tenant farmers who were excused from a part of their labor for the lord, in return for their services as artisans. When several manors were close together a smith and a carpenter, working now in one manor and now in another, were sometimes kept wholly at transforming work, and thus were distinct from the extractive class of workers. As a rule, however, the transforming work of a manor was done by the extractors. Extracting and transforming were not yet, as a rule, distinct occupations. There was practically no manufacture for consumption outside the manor.

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[1]Gomme, *The Village Community*, p. 226—1890, Scribner & Welford, New York.

Transformers in Towns.[1] As towns grew larger, and needed manufactured articles requiring more skill than a person occupied most of the time with other tasks could acquire, distinct artisan classes with superior tools grew up in the town to make such articles. Probably the first transforming industry to enlist in its services the whole time of a separate class of men was that of weaving. Cloth was "a necessary," but a necessary which would "keep." So this industry grew as town populations grew, and many other industries likewise, and gradually absorbed to themselves the whole time of larger and larger numbers of men. Among industries mentioned by Ashley are those of butchers, bakers, bricklayers, cordwainers, dyers, fullers, saddlers, helmet-makers, spurriers, plumbers, etc. In towns, therefore, there was already a distinct and growing group of transformers; although it must be supposed that in the town, as well as upon the manor, most of the manufactured goods required by each household were still made by its own members.

Transporters. With the exception of couriers, messengers, etc., this group of men was not yet distinct from extractors and transformers on one side, or from transferrers on the other. About the only commodities that were carried out of a manor were the agricultural products which were drawn and carried by tenants themselves to the nearest market town, to a fair, or to some other manor house where their lord and his retinue were for a brief time staying. On the other hand, the goods that were brought into towns and manors were chiefly a few articles of luxury from abroad, articles that were not bulky, but valuable.

The only vehicles were rude and heavy wagons for merchandise. Men and women went on foot or on horseback. With the exception of some old Roman roads which still remained, the highways were wretched and growing worse.

[1] Ashley, vol. II, ch. i.

Transferrers.[1] The first group of occupations, aside from the military, to become wholly separate from agriculture, was probably a class of small traders in raw products of agriculture, and imported articles of luxury. After the Conquest this foreign trade, largely in the hands of men from outside England, grew in importance and was carried on mostly in the market places of towns and at periodical fairs. It was necessary to gain the king's consent for a town to have a market and for the holding of all fairs. Money was scarce, and most exchanges, especially the local exchanges, were of goods for goods (barter) at rates that were largely ruled by custom.

As both local and foreign trade grew, a town got permission from the king to form an organization of privileged men called a "Gild Merchant," to control the minutest details of the qualities and quantities of goods exchanged. Within a century and a half after the Conquest practically every town of importance had secured the privilege of thus controlling its own trade by means of its Gild Merchant.

Servants. The lord of a manor, the king, and the necessary retainers of both, in this feudal time when an armed force was needed for offense and defense, performed genuine services for the manorial tenantry in return for the servile and oftentimes excessive labor and contributions rendered to their lords by the tenants. Courts were also held by the lords, or their representatives, upon every manor.

Sometimes, also, the lord of a manor was not a military or political person, but a church dignitary, and thus rendered a religious service to his tenantry. In addition, there was upon each manor, as a rule, a village priest who often united in himself the functions of farmer, teacher, and preacher. In general, clergymen were lawyers, teachers, architects, and men of letters.

[1]Gross, *The Gild Merchant*, vol. I—1890, The Clarendon Press, London.

Of course, there were also personal and domestic servants in the service of the well-to-do.

Two facts should be emphasized: the servant group of occupations was not so separate from other groups as now, since each man did a greater variety of kinds of work; services of all sorts were not, as a rule, paid for in money, but in other services or material goods. Much of the income, even of the clergy, lords, and kings, was in the form of services and produce rather than in money. The feudal system as a whole was based more upon the idea of an exchange of services than of wealth.

Dependents.[1] The fact that all the land and all the persons upon all the land were a part of the estate of some lord, fixed the responsibility for caring for all unfortunate and inefficient persons. With the possible exception of the useless hangers-on of the powerful, and of the begging friars who entered England early in the thirteenth century, there were no homeless poor in England. Each manorial estate was supposed to take care of all its own dependents.

Society.[2] The dominant idea upon manor and in town was what we call feudalism. There were graded rights to the soil; and graded duties corresponded with those rights. Every person, therefore, had well-defined rights and duties in relation both to those persons higher in the scale and to those lower. Looking at society from the point of view of the king, it is clear that from the humblest tenant who gave days of service and a few eggs to the lord of the manor, up

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[1]Garnier, *History of the English Landed Interest*, vol. I, p. 245—1892, Swan, Sonnenschein, & Co., London.

[2]In Part I we used the formula—

$$\text{Society} + \text{man} \left\{ \begin{matrix} \text{as undertaker} \\ \text{as directed worker} \end{matrix} \right\} + \text{capital} + \text{natural resources} = \text{utility}$$

to summarize the so-called "factors" that are present in every productive enterprise. The terms of this formula will be here used to summarize some of the facts of productive enterprises of England during the Home Period.

through the villeins, socmen, lords, abbots, and over-lords, an increasing stream of revenue was flowing toward the king as the official head of the political and military society of England. The king also gained much revenue from the great number of royal manors of which he was the direct lord.

Through taxation by feudal methods, therefore, the productive processes of individuals, then as well as now, were affected by society organized for purposes of government.

Another way in which the king, in the name of all the people, affected industry, was in partially controlling the coinage of money. Henry I. (1100-1135) found, in 1125, that ninety-four "moneyers" who had been allowed to coin money had clipped the coins. As a punishment he ordered their bodies to be likewise mutilated.

A third important power of society was the minute control of trade and transportation by the Merchant Gilds of towns to which the king had granted this privilege. The right to hold fairs was also bought from the king.

Towns similarly bought from their lords the right to pay a town tax instead of giving individual services, the right to govern themselves, and the right to hold courts. Thus men in groups to whom we give the name society, through their political and military organization as a nation, through their town organizations, and through their industrial gilds, were continually making rules and conditions under which the individual producer of utility was obliged to carry on his enterprise.

Landlords. Political economists mean by "land," not only land in the literal sense, but also lakes, rivers, mines, forests—all kinds of materials and forces whatsoever that are furnished directly by nature. We shall often use the word land in this broad sense hereafter.

The king was the greatest landowner in England.[1] Indeed, in theory, he was the only man who had the full right of private property in land,—right to use in his own person, right

[1] Medley, *A Student's Manual of Constitutional History*, p. 20—1894, Simkins, Marshall, Hamilton, Kent, & Co., London.

to let out and enjoy the fruits of, and right to dispose of. Other men, down to the villein who had simply the right to use, had partial rights of property. Slaves, of course, did not have even this partial ownership. Still, one of the most significant things about the time was that nearly everybody had at least the right to use for a definite period a definite amount of land. Nearly everybody was in a limited sense his own landlord.

Capitalists.[1] The term "capital" as used hereafter is intended to include both money and all goods not designed by the owner for the immediate satisfaction of his wants, but for use in further production, that is, all "tangible apparatus for the production of wealth."[2] The term includes also "all the goods still in the stage preparatory to final enjoyment."

In a certain sense, of course, any man who has even a little capital is a capitalist, but generally a capitalist means a man who has a considerable quantity of capital, usually enough to lend to others.

In this sense there were comparatively few capitalists in England. The workmen in the different occupations, of course, had simple tools belonging either to themselves, to the lord of the manor, or, in towns, sometimes to the master workman. Still no great outlay was necessary for tools in any particular case. Skill in their use was more important in setting up a business than the tools themselves. The labor factor in production was of more importance than the capital factor.

Man as Undertaker. By "undertaker" is meant the man who sees that some utility is desired by men and undertakes the task of producing it. Here again every case of production has its undertaker; but there are cases varying all the way from the one where no special acuteness is required to see what kind of utility will meet the wants of men, to the

[1] See Part III, chapter ii, for brief discussion of the nature of capital.

[2] Taussig, pp. 36, 37.

one where a man must foresee, months in advance, what particular textures and patterns of fabrics fashion will make popular among millions of people. Cases vary also from a simple productive process where the undertaker himself can with his own hands use the necessary tools upon simple materials, to the case where the coöperation of thousands of laborers, millions of dollars' worth of capital, and other millions of dollars' worth of land must be secured. Only when the productive process has become so complex that special acuteness in planning a business and special skill in the coöperation of land, labor, and capital to carry it on successfully, are required, is there a class of people developed to do just this work.

During the Home Period of industry, production was simple and carried on in customary ways. The undertaker, therefore, does not stand out separate from ordinary workmen or from owners of land.

Man as Directed Worker. Upon the manors the tenants worked in two capacities: as directed workers upon the lord's demesne lands; and as independent workers, men who were their own undertakers, upon their own holdings. There were also beginnings of wage work in the modern sense. For example, when the villein was obliged to work for the lord with one or two men, there was something similar to our wage-work, although at first, no doubt, the cotter who worked for the villein in this way was paid partly in produce or reciprocal labor; and, besides, he was usually a small farmer on his own account, and thus not wholly dependent upon wages.

In towns, as soon as a sufficient number of men were employed in one kind of manufacture to make it possible, a craft gild was formed "to secure honest pay for an honest job." There were master workmen who were allowed to undertake a job, journeymen who had mastered the trade or craft, but had not yet set up for themselves, and apprentices who were learners. There was no class which must remain a wage earning class all their lives. Apprentices expected to be journeymen, and

journeymen, masters; there was no social gulf between them, since the members of a gild lived near together. The master workman was trader, undertaker, and workman combined.

Right of Private Property and Freedom of Contract. The right of property in land has already been mentioned in the paragraph on "Landlords." As to private property in goods other than land, there were all degrees, from that of the slave who owned nothing, up to that of the lords and king, the latter having, in personalty, the full right of private property, including human beings. It will be remembered that the villeins could not sell animals and produce without the lord's permission, and, thus, were without the full right of property in personal goods as well as in land.

Just as custom and tradition fixed the terms on which each tenant upon a manor held the score or more of scattered strips of land that custom had decreed belonged to him to work, so almost all questions of service, barter, and exchange of goods for money, were ruled by custom and status, to such a degree that a free contract about them was well-nigh impossible. Even the king was bound to a wonderful degree to maintain the customary relations with his tenants and subjects.

Characteristics and Limits of the Period. Lack of production for exchange, especially lack of manufacture for a market; the fact that each man did many things, was a Jack-at-all-trades, as we say; and the lack of means of transportation; in short, the self-sufficiency of each economic unit, characterized this period, to a degree hard to realize now. Each family, each manor, each town, each monastery, England itself, produced the utilities consumed within the unit. Thus the name Home Period of industry suggests its characteristics.

No precise date can be given for the end of this period and the beginning of another. The transition was gradual and was never complete for every family and community. To this day there are survivals of the system in out-of-the-way places

in the United States. Of course, there were more survivals in England during the period which followed it. But when manufacture and trade had so developed that the fact of sale became more important to large groups of persons than the fact of production for home consumption, the industry of the time was, on the whole, different enough from that already described to be given a new name. During the second hundred years after the Conquest, the change was going on in England somewhat rapidly. This stage of industrial development in America is treated later. In order of time it necessarily came later than in England and gave way to other systems more rapidly.

Suggestive Questions.

1. Give any examples known to you of families in the United States who now consume about all they produce, and produce all they consume.

2. Give reasons for this fact.

3. How do the wealth and services they consume compare, in variety and quality, with those of the family of an ordinary worker for wages, in a town or city?

4. Give examples of communities of people in the country that are or have been largely self-sufficing.

5. Give similar examples of nations.

6. What is the present tendency in this particular of such families, communities, and nations? Why?

7. Give examples of prices of goods which are determined to some degree by custom.

8. Give examples of wages which are determined to a great degree by custom.

9. In which field, that of payment for services or for material goods, is custom more effective in fixing price? Why?

10. Give the best example known to you of the rapid fluctuation of the price of something, in response to the conditions of the moment—that is, a case where custom has least influence upon price.

11. Is freedom of contract greatest in this case? Why?

12. Point out resemblances between the industrial life of one hundred years ago in the United States and that of England during the period already described.

13. Point out as many differences as possible.

Chapter II

THE GILD PERIOD OF INDUSTRY IN ENGLAND[1]

Introductory Questions. 1. Find out by reading, or asking some member of a labor union, all you can about the membership, purposes, and methods of modern trade unions. For example, ask questions similar to these:

a. Are men who have different trades, like carpenters and bricklayers, members of the same union? Why?

b. Are owners of land, capitalists, and undertakers, members of the same union as wage-workers? Give reasons.

c. May skilled and unskilled workers of the same occupation be members of the same union? Give examples.

d. How are the local unions of men in the same trade—for example, typesetters in different cities—united?

e. In what ways do trade unions seek to affect wages and conditions of employment for their members?

f. What care do labor unions ever take of their members when sick, and of the families of those who have died?

g. Is there, in the United States, any organization of the unions of different trades designed to help

[1] The authorities which have been most used in writing this chapter are the volumes of Ashley and Gross, already mentioned, and the following: Green (A. S.), *Town Life in the Fifteenth Century*—1894, The Macmillan Co., New York; Webb and Webb, *The History of Trade-Unionism*—1894, Longmans, Green, & Co., New York; compare also *Industrial Democracy*—1897, by the same authors and publishers; Ely, *The Labor Movement in America*—1886, T. Y. Crowell & Co., New York.

all unions in all trades to work together? If so, describe it.

h. What influence do members of trade unions, as a rule, have in the government of the town in which they live? Give examples.

i. What are the purposes of trade unions, and by what methods do they seek to attain their ends?

j. Is the control of a member by the union as a whole, an illustration of the fact that what we have called society has much to do with the way in which an individual producer of utility carries on his enterprise? Which is primarily sought in unions, the welfare of a group of men or the welfare of one man? Why?

2. Make a written statement of what you learn about trade unions, for comparison with the statements about craft gilds in this chapter.

A Glance Forward. We have gained some suggestions of the simplicity of English industrial life in the period just after the Conquest when compared with the life we know. This chapter will try to show that during the Gild Period some progress was made from the simplicity of the Home Period toward the complexity of the Factory Period. A knowledge of two facts is of the greatest importance in this effort—the Black Death and the growth of towns. The Black Death, which carried off about half the population in 1349, caused the old agricultural life, as described in the previous chapter, to be broken up; and established new business relations among the inhabitants of each manor. The fact of the growth of towns, on the other hand, is of the greatest importance in connection with manufacture and trade.

Extractive Industries: Agriculture. For a hundred years or more before the Black Death there had been growing up, on some manors, the custom of allowing villeins to make a payment in produce, or in money, to the lord, instead

of giving the customary days of labor upon his demesne lands.[1]

In the records of villeins' service in Chapter I it will be noticed that the equivalent of every service of the villein in Oxfordshire is given in money, while in Huntingdonshire it is not so. This is an indication that the custom came in slowly. This money payment in lieu of work was called "commutation of services," and had a tendency to make the servile tenant more nearly like a free man of to-day who hires a farm instead of owning one. The lord then took these payments, and hired men outright to cultivate his demesne. His bailiffs and seneschal could oversee wage-workers as well as villeins. The land, however, was still in scattered strips.

After the Black Death the following changes took place:

1. A scarcity of workers caused wages to rise, in some cases as high as fifty per cent, and both the lords upon those manors where commutation of services had taken place, and the villeins who were obliged to furnish an extra man or two for the lords of the manors where commutation of services had not taken place, were at once affected thereby.

2. This great rise in wages caused employers to seek relief from Parliament.[2] By the Statutes of Laborers, which were enacted soon after the Black Death, wage-workers were directed under frightful penalties to work for the same rates as had before been customary. In spite of these laws, however, many employers paid higher wages than formerly.

3. Those lords upon whose manors commutation had already taken place, found themselves, consequently, unable to hire men enough, with the payments made by tenants, to cultivate the whole of their demesne lands in the old way; and were, therefore, forced either (*a*) to collect larger payments from their tenants; (*b*) to give up tillage in the old way and devote their demesne lands to the pasturage of sheep, which required a

[1] Ashley, vol. I, pp. 20-29.

[2] Cunningham and McArthur, pp. 105, 145.

less number of men than tillage; or (*c*) to rent their demesnes to new tenants, at a higher rent perhaps, but on more favorable terms respecting personal and industrial liberty, than were customary with other tenants.

4. In case more rent was collected from old tenants, there was hard feeling and opposition on their part.

If the demesne lands were turned into sheep pastures, those parts that were scattered all over the manor, side by side with the strips of tenants, caused trouble, and tenants were bought out, ill-treated, and sometimes evicted, in order that the whole manor might be enclosed for pasturage. This was called "enclosure of the open fields," and resulted in a partial depopulation of many manors. And, finally, in case new tenants were given more favorable terms than the old, the old tenants were jealous of the new.

In any case, therefore, the old industrial life of the manors was so broken up, there were so many causes of hard feeling, and so much actual suffering, that the general movement of the servile classes toward greater economic and social freedom took a violent form, in 1381, in the Peasants' Revolt, or, as it is sometimes called, Wat Tyler's Rebellion.[1]

5. The immediate result of the revolt was failure, for it was put down; and tenants on many manors continued to be refused a regrant upon the expiration of an old one, to be cheated, bullied, and evicted. Thus were the forests, grass lands, demesne lands, and even the open fields held immemorially by tenants, enclosed to form sheep pastures for the lords. For generations this enclosure with depopulation went on, until at last Parliament interfered in behalf of the unfortunate tenants. This legislation took place during the last half of the fifteenth century and the first half of the sixteenth. After this, therefore, enclosure was for the purpose of so redividing the lands of the manor that each tenant could have all his land in one enclosed farm, instead of in scores of scat-

[1] Ashley, vol. II, ch. iv. Compare Medley, p. 38.

tered strips.[1] This method of enclosure did not of necessity reduce the population of a manor.

6. Although the rural population just after the Black Death was too small for the work to be done; after several generations had passed, the enclosure of large areas for sheep farms gradually made the population too large. As a consequence, great numbers of men, women, and children, were turned from their homes to find work in towns, or to become homeless beggars and desperate robbers throughout the land.[2]

7. After enclosure for the purpose of giving each tenant all his land in one place had begun, it was possible for the first time to begin better methods of farming. The first of these better methods is named, in contrast with the old two-field and three-field systems, "convertible husbandry." By this system, all the tillage land, half in pasture and half under the plough, was in use all the time. Each half was periodically converted from pasture to ploughed land and from ploughed land to pasture.[3]

8. As a result of all these changes upon the manors no general description will apply to all of them after the Black Death, as it would fairly well before.

Extractive Industries Other Than Agriculture.

In addition to the simple fishing, hunting, tin and lead mining, mentioned in Chapter I, the mining industry was of growing importance, and Englishmen were at last coming to know that the coal deposits were of great value.[4] There were seventy-two movable forges for iron in one region; and forests also were in many places used as never before to furnish timber for the increasing number of vessels that were being built. Still, in comparison with the agriculture of the time, all other extractive industries were of little importance.

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[1]Ashley, vol. II, pp. 273, 286, 287.

[2]The same, vol. II, pp. 351-356.

[3]The same, pp. 261, 262. Compare Cunningham and McArthur, pp. 178, 179.

[4]Green (A. S.), vol. I, p. 54.

Transformers in the Country. In a poem of the fourteenth century—*The Vision of William Concerning Piers the Plowman*[1]—mention is made of the different classes of villagers who turned out into the fields on a spring morning—"a fair felde ful of folke." There were "husbandmen, bakers, and brewers; butchers, wool-websters, and weavers of linen; tailors, tinkers, and tollers in market; masons, dikers, and delvers."

How many of these persons were so separate from the occupation of farming as to get their whole living from their transforming occupation, it is impossible to say. Indeed, the fact that they were all pictured by the poet as being in the field implies that many of them were actually helping put in the seed. In any event they were so identified with transforming tasks that, even if they did work on the land a part of the time, they were known in their own village by the name of their transforming occupation. This indicates that occupations were becoming more separate from each other, even upon the manors, than in the days of the Home Period.

Transforming in Towns. In the towns also there had come to be as many different classes of artisans as there were different articles made on English soil. These transforming classes in towns had now, as a rule, become wholly separated from the occupation of farming, but were still often associated closely with the transferring classes.

Every transforming and transferring occupation which enrolled within it a score or so of workers for a single town was also, during this period, organized into a craft gild. Even parish clerks had a gild.[2] This gild control of all sorts of manufacture and trade by the local gilds of the towns suggests the name "Gild Period" which heads this chapter. Something further will be said a little later about the organization and purposes of these gilds, under the heading "Society."

[1]Langland, Prologue.

[2]Ashley, vol. II, p. 75.

Transporters. With the same exceptions as during the former period, transporters do not yet seem to have become separated from the extractors and transformers on the one side, or from transferrers on the other. Certain it is that those who were carriers and nothing more, were few, and, in comparison with other occupations, of little importance.

Transferrers. This group of men was seen in Chapter I to have been the first to become wholly separate from the agricultural group in England. It was not there seen, however, to become distinct from the transformers, but still included many artisans who made the articles they sold. During the present period some of the trades became so separate from the transformers that they had no hand in making goods, but bought them from the makers and resold them to others. Not only so, but the trading class became more wealthy in many towns than any other class. They were the ones who were collecting stores of ready money, and theirs were the gilds or "companies," as they came to be called, which finally had most influence in the government of the various towns. For example, in London in the fifteenth century, out of the twelve companies from which alone the mayor could be chosen, nine were organizations of transferrers rather than transformers.[1]

Again, the foreign trade, especially in wool, was of growing importance, and in the thirteenth century began to go through certain towns called "Staple Towns" and to fall into the hands of certain merchants known as "Merchants of the Staple." Of course this gave special privileges to these towns and merchants, but by this means the king was in return able to collect taxes from the trade more surely and easily.[2]

It would be a great mistake, however, in spite of the facts just mentioned, to suppose that the bulk of the trade which took place during the period was of this large kind. On the contrary, a great part of the trade was still narrowly local.

[1]Ashley, vol. II, p. 133.

[2]Gross, vol. I, pp. 140-148.

Artisans worked very commonly for a purely local market. There was, indeed, a market for many kinds of goods outside the family and gild of the producers, but it was so well known, so local, so steady, that both manufacture and trade could in the main be controlled by the petty yet minute and definite rules and restrictions of the local craft gild.

This narrowness of market under gild control characterized the period.[1] Just so soon as the manufacture and the sale of any article were subject to the buyers of the nation as a whole and to buyers in foreign nations, the gild regulations made by a single English town to control the manufacture and sale of that article could no longer be enforced. No longer did that industry belong to the Gild Period.

Servants. In this group of occupations, as in most of the others in comparison with the period of the Family System of industry, there was growing separation of tasks. It is of comparatively little importance that we are unable in most cases to state just how far this class of people depended upon their services, and how far upon their efforts as producers of wealth, for their subsistence. The really important thing to see is that servant functions of the highest order were being performed to an increasing degree during the period. Langland and Chaucer lived and wrote during this time. The universities of Oxford and Cambridge were all the while doing their part toward general education and the overthrow of feudalism, architecture flourished, Caxton set up his printing press in England, Wycliffe translated the Bible, Magna Charta was wrested from John's reluctant hands, and Parliament became the mouthpiece of a liberty-loving people.

How important the clergy were during that period, and how little separated from each other the highest classes of servants still were, the following statement admirably shows: "The clergy, in the widest sense of the term, contained nearly the whole of what we should call the professional

[1]Ashley, vol. II, pp. 219, 220.

classes. The architects, the physicians, the lawyers, the scribes, the teachers of the middle ages, were almost always clergymen, and when employed in these callings were rewarded for their services with benefices. We know but few of the men who designed the great cathedrals, churches, and castles of the middle ages,—those buildings which are the wonder of our age for their vastness, their exquisite proportions, and equally exquisite detail. But when we do know, as it were by accident, who the builder was, he is almost always a clergyman. . . . The monks were the men of letters in the middle ages, the historians, the jurists, the philosophers, the physicians, the students of nature."[1] Personal and domestic servants there also were, who, though no longer slaves in theory, were doubtless then, as in all times, subject to all the varieties of treatment possible to persons in this relation. On the whole, the best services of the period were not rendered directly to the masses of the people.

Dependents.[2] The Black Death and its subsequent effects upon the industrial relations of men to each other, together with the slow breaking down of the old feudal relation of lord to tenant, and the rise of manufacture and trade, were causing an uncertainty of subsistence to be felt by many in this period, that had before been unknown in England. Accordingly the problem of supporting and controlling both the worthy and the unworthy poor became a new problem. The problem was one which at this time had its source chiefly in the country, for it was there alone that the industrial changes were of such a nature as to throw men out of employment. In the towns, the new manufacturing activity tended rather to draw labor from the country than to throw out of work those men already at hand. The long series of Statutes of Laborers, and the ordinances of those towns in which country people were found begging, rested upon the idea

[1] Rogers, *Six Centuries of Work and Wages*, p. 163—G. P. Putnam's Sons, New York.

[2] Ashley, vol. II, ch. v.

that "there was sufficient employment, at customary or 'reasonable' wages in his own town or village, or in the country immediately around, for every able-bodied man who was willing to work." But what was to be done with those really unable to work? The lawmakers decided that these ought to be supported by the places where they happened to be when the laws were passed. But, if these places were unable to help them, such persons should be sent back to the place of their birth, there to stay for the rest of their lives. The charitable feeling of persons and groups of persons in general seems to have been depended upon to prompt sufficient care, for it was made the special business of no one to care for the dependent. Thus the matter stood until the sixteenth century.

For us now, perhaps, it will do the most good to remember that during the Gild Period the old ways of getting a living were so broken up, and so many persons were changed from producers to non-producers of utility, that local and national lawmakers at that time began to legislate about the dependent classes and to help such as were able in mind and body to get back into the productive classes again.

Society: Town Organization of.[1]

The towns had gone on buying political and economical privileges from lords and king until they became, on a smaller scale, like independent nations of to-day. Each town made its own laws, protected itself, taxed itself, regulated its own productive enterprises, and made all sorts of trade agreements with other towns. In times when food was likely to be scarce, towns also bought up supplies of food and retailed it to the citizens at cost, somewhat as towns now furnish a permanent water supply. Minute inspection of food and regulation of its quality and prices were also secured by direct action of city officers. This was called "the surveying of victuals."

Thus the town controlled the manufacture and trade of its own people, and also the manufacture and trade of the country

[1]Ashley, vol. II, ch. i; also Green (A. S.), vol. I, ch. vii-ix.

people around it, so far as their market was in the town. Each town, therefore, was the center of an agricultural community and ruled its little economic and political world with great independence.

Society: Craft Gilds of.

The organization of men which first undertook the task of economic regulation within the town was, as stated in Chapter I, the Merchant Gild. But as the number of different productive processes in a town became larger, much of the original work of the Merchant Gild was taken up by the craft gilds, so that finally the Merchant Gild had very little to do.

The membership in a craft gild seems to have included all the skilled and influential persons in any way connected with the manufacture and sale of a certain article. This bound together: (*a*) the wealthiest men in the business—those able to furnish the most land and capital; (*b*) those employers who were allowed by the laws to take work from customers and become responsible for getting the work done—the undertakers of the industry; and (*c*) skilled hired workers. Unskilled hired workers and apprentices were not allowed to become members.[1]

Two things about this membership should be clearly seen: first, if a time ever came when the interests of capitalists, undertakers, and hired workers lay in different directions, the gild would be likely to fall to pieces from within; second, if the consuming public as a whole, and the unskilled workers in particular, should find the craft gild their enemy, these organizations might find destructive opposition to them from without. These two facts may well be borne in mind later when a period whose industries were no longer under gild control is studied.

With reference to the officials of the town, the gilds seem to have passed from a time when they controlled their particular industries in such subordination to these rulers that the consuming public was well treated, as well as the gild mem-

[1]Green (A. S.), vol. II, pp. 116, 117.

bers well paid for their industry, to a time when the gild officers became themselves the town officials and often disregarded the general welfare.

The fundamental purposes of gild regulations seem at first to have been two-fold: to secure good material and honest workmanship for the consumer, and to secure good wages for the workmen. To carry out these purposes, the minutest details of quality, size, weight, and quantity, also the precise time and place of sale, and the price of each article, were subjects of the craft gild legislation, administration, and adjudication, subordinate only to the general municipal and national regulations. The same purposes no doubt also required the organization of each craft into master workmen, journeymen, and apprentices, and rigorously enforced restrictions upon the number of apprentices a single master workman could take at one time. By these means the total number engaged in each craft in each town, as well as all the details of manufacture and sale, were under almost perfect control.

Besides the above purposes, craft gilds also often aimed to unite persons whose religious beliefs and social interests were alike. Another purpose in some organizations was to care for the members in times of sickness, and for the families of members when death had left them needy.

Society: National Organization of.

Although society during this period controlled individual producers more through its town and gild organizations than through the national, yet some form of national control should not be overlooked.

For example, national standards for weights and measures were being established by such rulers as Richard I. (1189-1199), Henry VI. (1422-1461), and Henry VII. (1485-1509). A royal officer called an "aulnager"[1] was appointed to inspect cloth, both imported and domestic, and see to it that certain standards of weight, and quality, and width were adhered to. Although, as manufacture increased, local officials often did

[1]Cunningham and McArthur, pp. 96, 97.

most of the work of the aulnager, his work was not wholly given up by the nation until 1809. In the time of Henry II. (1154-1189) there was a sliding scale adopted to regulate the weight of a loaf of bread to be sold for a farthing as the prices of corn changed. Some form of this attempt was kept up into the eighteenth century. The coinage of money came more and more under royal control. The Statutes of Laborers of the fourteenth century sought to regulate wages, and this attempt in one form and another was not given up until 1813. Foreign trade was made by national order to flow through Staple Towns largely for revenue purposes and that it might the more easily be protected from robbers. And, finally, manufacture in England was greatly stimulated by the importation of Flemish weavers by Edward III. (1327-1377).

A detailed study of the above national attempts to make conditions in accordance with which individual productive effort must be expended would doubtless show that the various local authorities almost always had great freedom in administering the national laws; and that, even in making these laws, there was no well defined national policy that was carried out under successive kings. The fact was that certain industrial matters gradually became too big to be controlled by society in its smaller organizations, and, accordingly, the national organization made blundering attempts to deal with them.

Landlords. The feudal theory of landholding was still maintained, and this did not allow freedom to dispose of land to men who were otherwise owners. It is therefore plain that the various classes of occupiers of English land, from cotter to lord, were not yet in theory full owners. In practice, though, there was progress in this direction. For example, the various kinds of free tenants, into which class the former villein, cotter, and socmen classes were changing, were gradually securing legal protection as tenants.[1] Laws in accordance with which estates passed from father to son—the laws of entail and primogeniture—were also being

[1]Garnier, vol. I, p. 221.

worked out. Unwritten custom in all the details of landholding was gradually giving place to written law.

As a result of the changes in landholding, however, large numbers of persons during this period were being severed from any vital connection with the land even as tenants. The time was passing when an Englishman as a matter of course had direct access to the soil.

Capitalists. The owner of capital in a modern sense came into existence in agricultural England during this period in connection with sheep farming.[1] Where this industry was carried on upon a large scale, the product was no longer looked upon, as in the old days, as first of all a subsistence product for those men upon the manor who had taken part in producing it, the surplus only being sold; but the whole product was now first of all a market product to be sold in the highest market for money. This being so, the condition was presented for an investment in sheep in a truly capitalistic way. Most of the wool was not wanted by the sheep farmer for consumption, but merely as an aid toward getting for himself money or a greater variety of other goods for consumption.

Among the trading classes in towns, similar capitalistic investments were also becoming common. Foreign trade was dangerous and difficult as a rule, but, at its best, it was highly profitable, and brought in not only a sufficient return to replace the capital invested in goods, but also a handsome surplus. From the trading class came stores of ready money, both to be loaned to others and to be used by the owners in carrying out successfully many new enterprises.[2]

Undertakers. The industrial manager also came into existence both in country and in town. As a rule, the possessor of capital himself performed this function, but his task was already the distinct modern function of an undertaker of business enterprises for gain.

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[1]Ashley, vol. II, pp. 267, 268.

[2]The same, pp. 209-211.

For example, upon the manor it had been customary from an earlier time for a lord to let a whole manor to a "firmarius" (firmar, farmer) for a term of years at a fixed rental. But this firmarius had been heretofore so bound by the customary services, gifts, tallages, etc., of the manor that there was a continual check upon the amount of produce and revenue that he could get out of it for himself. As soon as a whole manor was so cleared of its tenants that it could all be devoted to sheep farming, the conditions were entirely new. The tenant could rent a manor from its lord, stock it with sheep, and manage his capital and laborers almost wholly upon the plane of contract for the utmost return in profit and interest that could be reserved after the rent and wages were paid. Such management of an estate was that of an undertaker in the modern sense, whether the manager was also the capitalist or not.[1]

In the town also it seems equally clear that the function of undertaker in the modern sense was rapidly developing among the traders who were learning to make dangerous, but sometimes highly profitable, ventures. Of the development of this function among the transformers more will be said later when the Domestic System of industry is discussed.

Wage-Workers. In rural England the number of men who could not look forward to the ownership or leasing of land, even under the manifold restrictions of the time, was growing much larger. Such men were no longer feudal dependents of a lord or a church estate, but must look for subsistence to such purchases as could be made with the wages assessed for them by the justices of the peace, in accordance with national law. The restrictions as to movement from place to place, and as to the amount and condition of wage, were many and minute. During this period the rural wage-worker began in earnest the toilsome and disappointing struggle for economic freedom that has not even yet been completely won.

[1] Ashley, vol. II, pp. 267, 268.

Of the wage-workers in the towns, the following extract is worth quoting at length: "Before the middle of the fourteenth century a 'labor class' had come into existence, in a sense of that term in which it had never been true before. There were now to be found a considerable number of workmen who were neither apprentices, indented to a master merely for a period of probation, nor master craftsmen; men, who, without having been apprentices, or,—increasingly as time went on—after coming out of an apprenticeship, became the employés of master craftsmen. At first the number of these 'servants,' 'serving-men,' 'valets,' or 'yeomen,' as they were variously called, was probably very small. Many master craftsmen worked by themselves, or with the aid only of an apprentice. For some time the 'servant' was rather the subordinate companion, the assistant of the master, than his employé. Many ordinances and statutes assigned to him a wage more than half as much as that of the master himself; and it would often be paid to him, not by the master, but by the person employing them both. The relations of master to man were not very dissimilar from those of the head of a household to the sons of the family; and, as with the sons, the position of dependence was, at first and as a rule, but a temporary one,—an intermediate stage during which the workman gained further experience, and saved a little capital before he set up on his own account.

"But soon there are indications that this class is increasing; and also that it is ceasing to be possible for every average journeyman after a few years' employment to set up for himself. There are indications . . . that a body of men is coming into existence who are unable to look forward as a matter of course to a time when they shall themselves be master craftsmen. . . . By this time, therefore,—in some industries as early as the end of the fourteenth century, but in most fifty years or more later,—it would be accurate to say that a 'working class' had arisen in the sense in which we now use that term. It is desirable to call attention to this and to

point out the further fact that, as soon as this class appeared, what is known as the 'labor-question' also began to perplex legislators.'"[1]

The account, however, goes on to show, what is very important for us to note, that there were at this early day such differences between employers and employees respecting wages and the various conditions under which work was to be done, as to justify the statement that the labor question had come into existence, but that these disputes were local, isolated one from another, and each involved so few men and such small interests, compared with the labor question of to-day, as to be little more than "family disputes between parents and children."

The Right of Private Property and Freedom of Contract.

So far as the commutation of services went on upon manor and in town, and so far as the common fields were enclosed either for pasture or for the substitution of larger-sized contiguous holdings for the tenants—so far it may be said that the economic changes of the time were tending toward a greater enjoyment of the right of private property by individuals. The old feudal conditions were everywhere slowly giving way, and just in proportion as the sphere of influence of status and custom was narrowed, was the sphere of influence of contract widened. Such a process can not be accurately described. It must suffice here to see clearly that there was motion toward a greater enjoyment of the right of private property and free contract. How far Englishmen as a rule still were from the enjoyment of either, the brief suggestions already given of the continuance of feudal theories, and of the existence of regulations, minute and manifold, by craft gild, town, and national authority, are sufficient to indicate.

Suggestive Questions.

1. Is the modern trade union a direct descendant of the medieval craft gild? Give reasons.[2]

2. In what respects is a trade union different from a craft gild?

[1] Ashley, vol. II, pp. 101, 102, and following.

[2] Webb and Webb, pp. 1-18.

3. In what respects are the two alike?

4. What does your town or city now do to secure pure food; just weights, measures, and scales; fair prices; etc., for its citizens?

5. Compare the things the United States now does for its people with those that were mentioned as being done for the English by the national government in the Gild Period.

6. Through what other organizations than the national government does society in the United States now have something to say about the manner of carrying on a private business? Illustrate.

7. Who decides in America how much these various organizations of society shall have to say about a man's private business? Illustrate.

8. Is it more or less difficult for a man to set up in business for himself now than in England during the Gild Period? Why?

9. What is the custom about apprenticing boys to a trade now? Why? Give examples.

10. Have you ever read any histories or novels which treat of the times covered by the Home Period and Gild Period in England? If so, name them and find out whether any of the statements made in these two chapters are illustrated in them.

11. Show in what important respects the Gild Period was different from our own. How was it like our own?

12. How was it different from the Home Period?

13. How was it like the Home Period?

Chapter III

THE DOMESTIC PERIOD OF INDUSTRY IN ENGLAND AND AMERICA[1]

Introductory Questions.

1. How did the efforts of men to get a living have any influence upon the discovery and colonization of America?

2. Mention some other remarkable voyages, explorations, and efforts toward the occupation of territory by Europeans during the fifteenth, sixteenth, and seventeenth centuries.

3. What part in them did the desire for greater stores of goods play?

4. What goods were most eagerly sought? Give examples.

5. Give any accounts you may have read of great caravans, fairs, trading routes, and trading companies, of these and previous centuries.

6. Show how the knowledge of a greater world, which came to Europeans with the discovery of America, enlarged their ideas of business enterprises.

7. Compare the time taken for new knowledge to reach all classes of people in England then and now. Give reasons for the difference.

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[1]The following general references have been used often in this chapter: Hobson, *The Evolution of Modern Capitalism, A Study of Modern Machine Production*—1894, Charles Scribner's Sons, New York; Taylor, *The Modern Factory System*—1891, Kegan Paul, Trench, Trübner & Co., London; Gibbins, *Industry in England, Historical Outlines*—1897, Charles Scribner's Sons, New York; Bruce, *Economic History of Virginia in the Seventeenth Century*—1896, The Macmillan Co., New York; Weeden, *Economic and Social History of New England, 1620-1789*—1890, Houghton, Mifflin & Co., Boston; Wright, *Industrial Evolution of the United States*—1895, Flood & Vincent, Meadville, Pa.

8. How did the discovery of America affect in any way the ideals of English rulers as to what England ought to be? Illustrate.

9. After Europeans had come to America what industries did they carry on in this country in ways similar to those of their home countries? Give examples.

10. Name facts and conditions which would make them change occupations and methods of production somewhat.

11. Has your family any tools or other articles that were once brought by them or others before them from Europe? If so, describe them.

12. Are such tools and articles used here now? Why?

13. Have you any tools or articles that were made in the home by your parents or grandparents long ago? If so, describe them.

14. Are such tools and articles in use now? Why?

15. Find out the names of the states in the United States and the names of the countries in Europe from which your parents and grandparents (and great-grandparents if possible) have come.

[NOTE.—This information has been used by Professor George E. Vincent of the University of Chicago, as follows: The facts about each pupil in the class are put into the hands of one person who traces in different colors upon outline maps of the United States and Europe lines from the place where the pupil lives to the places where his ancestors lived. It is then asked what information the diagram gives about the general trend of immigration to this country and about migration within the country.]

16. What is meant by the word frontier in the United States?[1]

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[1]Turner, *The Significance of the Frontier in American History*, Annual report of the American Historical Association, 1893, pp. 199-227; also *The Fifth Year Book* of the National Herbart Society, 1899, pp. 7-41.

Compare Vincent, *A Belated Frontier*—"The American Journal of Sociology," July, 1898, The University of Chicago Press.

17. In what respects is frontier industry different from the industries of one of the oldest parts of the country? Give illustrations.

18. Do you know of any places in the United States where frontier life now exists? If so, describe the productive processes there.[1]

19. What kind of services can be obtained upon a frontier?

20. Write the history of the industrial life of a frontier settlement from the beginning until it becomes a city.[2]

21. What change takes place in the number of persons engaged in the production of services, compared with the number who produce wealth, as a frontier settlement develops into a city?

22. Show that a similar change in ratios between service producers and wealth producers has taken place in England and the United States, as nations, since early days.[3]

23. Have you read any novels which treat of life in England or America between 1450 and 1775? If so, note the illustrations of productive enterprises and methods of the time, and compare them with such enterprises and methods of to-day.

ENGLAND

The Point of View. We have now brought this sketch of the industrial development of England down to a time when the Domestic System of industry was slowly making its way. This system must now be briefly described, not only because its study will reveal the steps in the evolution of industry which follow those that have already been mentioned, but also because it furnishes the immediate background for that organization of industry which is about us now, and which we briefly studied by means of the suggestions given in Part I. The Industrial Revolution, and the Factory System of indus-

[1]Turner and Vincent.

[2]Small and Vincent, *Introduction to the Study of Society*, Book II—1894, The American Book Co., New York.

[3]Harris, *Is There Work Enough For All?*—"The Forum," vol. 25.

try which it ushered into the modern world, can not be well understood in many of their important relations, unless the system which preceded them is studied also.

Another fact of great importance to us in the United States must also here be emphasized. During the period of the Domestic System of industry in England, America was colonized, the English colonies here were united in enduring bonds of common political and economic interests, and long steps were taken toward securing their independence of the mother country. During this period, therefore, the industrial development of England directly affected the industrial development of the English colonies in America, and, henceforth, both England and her colonies must be included in our story.

Change from Gild System to Domestic System Slow.

The time when the Domestic System was coming into use was not the same for all industries, for some entered upon the enjoyment of more than a local market much earlier than others. From the middle of the twelfth to about the middle of the fifteenth century is the period belonging in general to the Gild System of industry. But in the woolen industry, which we have already seen was the first to enjoy a foreign market, the change from the Gild System began much earlier than 1450, while even after the fifteenth century, the Gild System was still in operation in many subordinate businesses. These facts should serve to remind us once again that industrial changes from one system to another are slow in any particular industry, and far from uniform for industries in general. Industrial evolution has been the work of centuries, not of decades; and even in the case of the Industrial Revolution of the eighteenth century, the word "revolution" is applicable only because there was so great a change in the comparatively short period of forty or fifty years.

We must, therefore, look for the beginnings of the Domestic System in the woolen industry, some phases of which have

already been seen to have affected profoundly the agricultural life of the English people during the centuries following the Black Death.

Transforming, Method of.[1] Professor Ashley[2] says that "the conditions under which woolen manufacture was carried on by the new system were almost the same the first time these conditions were revealed by a national statute in 1465 as they were three hundred and forty years afterward when, in 1806, a Parliamentary Committee made a report on 'the system of the Master-Clothiers of the West of England.' . . . Half a century later, an act of 1511-12 gives a more explicit account. It speaks of the wool being 'delivered for or by the clothier' to certain persons 'for breaking, combing, carding, or spinning'; of the duty of the breaker or comber 'to deliver again to the said clothier the same wool so broken and combed'; of the duty of the carder and spinner 'to deliver again to the said clothier the due amount of yarn of the same wool'; of the duty of 'the weaver which shall have the weaving of any woolen yarn to be webbed into cloth' 'to weave, webb, and put into the web for cloth as much and all the same yarn as the clothier, or any person for him, shall deliver to the same weaver'; and of the like duties of the 'walker (or fuller)' to return unimpaired the cloth committed to him.

"Thus the central figure to be studied in the new organization of labor is the clothier. He buys the wool; causes it to be spun, woven, fulled, and dyed; pays the artisans for each stage in the manufacture; and sells the finished commodity to the draper."

This clothier, therefore, was a typical undertaker, combining capital, labor, and natural resources, for the purpose of securing a product which he himself controlled. The clothier

[1] As one of the most characteristic differences between the Gild Period and the Domestic Period appears in connection with the making of woolen cloth, the transforming group of occupations is treated before the extractive group, in this chapter.

[2] Vol. II, pp. 227, 228.

"took the risk of the fluctuating demand of that greater market which had now come into existence."

The small master artisan who, under the Gild System, either worked by the piece for the consuming customer on the customer's materials, or was a transferrer as well as transformer in that he bought raw material and sold the finished commodity to a local customer, now became a transformer only, and even that in only one of the many partial processes into which clothmaking was divided. His position was henceforth dependent not upon the comparatively stable demand of local consumers but upon the more or less abundant manufacture demanded by the clothier. Still he might continue to have journeymen and apprentices under him as before.

But, unless apprenticeship was compelled by law, and that could often be evaded, there was nothing in the system itself which kept any individual who had the necessary skill and a single spinning wheel or hand loom from passing by the master workman and doing work directly for the clothier undertaker who usually paid wages by the piece.

Under the Domestic System, therefore, artisans, even when working for a master artisan, might do the work either at their own homes or at a place near by provided by the master artisan; and they might devote themselves entirely to spinning and weaving every working day of the year, or give up to manufacture merely those occasional hours and days that could be snatched from recreation on the one hand, or could be spared from their ordinary work in the field and about the house on the other.

Transformers, Increase of in the Country Districts.

Thus, under the Domestic System of industry, the country, for the first time, became familiar with classes of artisans who were devoting themselves to the making of goods not demanded by local needs. All forms of textile manufacture were thus scattered over the country. Of the textile goods, woolen was by far the most important, but linen, silk, and cotton goods were also manu-

factured. The tools were generally simple, worked by hand, and used in or near the homes of the workers. Most of these country artisans owned a cow and cultivated a garden or a larger plot of ground, from which sources the family was able to get a considerable part of the necessary food. Hardly any of the rural manufacturers, therefore, were left with absolutely no means of subsistence while temporarily deprived of their regular employment.

Another new phenomenon of this period must be noted. Not only were artisans scattered through the country districts, but those artisans who were making a special kind of cloth were scattered over one area, and those making another kind over another area. "From its first appearance the worsted manufacture had been confined to Norwich and the country around. So now the new woolen manufacture in the country districts did not spread itself evenly over the whole country, but, after a short period of experiment, concentrated itself in particular districts—especially the Eastern Counties, Devonshire, and Somerset, and Yorkshire. The concentration went further still; for each of these districts confined itself to the manufacture of a few staple varieties peculiar to itself."[1]

Thus, during this period, the personal division of labor was carried further than it had been carried before in England since the Norman Conquest, and a beginning of territorial division of labor was clearly under way. Towns as well as families were no longer able to satisfy all of their own wants.

Extractive Industries: Agriculture. We have already spoken, in Chapter II, of the rapid enclosure of the common fields during the last part of the fifteenth century and the first part of the sixteenth. After that, it went on very slowly during the whole period until about 1760, at which time probably one-third of the work remained to be done.[2] It is therefore clear that the same background of a wasteful, unprogressive, and awkward system of agriculture, as was described in Chapter I as general in

[1] Ashley, vol. II, pp. 46, 47.

[2] The same, p. 286.

England at the time of the Domesday Survey, must be imagined as existing over fully one-third of the arable land of England during the whole period now under consideration. It is true that conditions of tenure and the personal interrelations of the manorial population were somewhat different now; but the methods of tillage were not radically changed. Upon the manors where enclosure had taken place for the purpose of establishing convertible husbandry some progress was doubtless being made, but, taking the agriculture of England as a whole, it presents only the varieties possible between pasturage on the one hand and convertible husbandry on the other. Agricultural implements were still comparatively simple, varieties of roots and grasses were few, the science of fertilization was unknown, breeds of animals were inferior, rotation of crops was hardly begun, and with the exception of wool, and some live-stock which could be driven to a distant market, markets were still narrowly local. Anything like modern agricultural societies and papers, for the social study of agricultural methods and the general distribution of the best extant knowledge of soils, seeds, breeds of animals, and tillage, was unknown.

No reliable statistics of occupations at different periods exist, but the following estimate was made in 1688.[1] It shows how slightly occupations were classified and also suggests the continued importance of agriculture in comparison with all other occupations:

Agricultural Classes (freeholders, farmers, laborers, out-servants, cottagers, and paupers)	4,625,000
Manufacture	240,000
Commerce	246,000

[NOTE.—Graphic statements of these figures are easily entered in note-books, and are interesting to compare with similar statistics for other periods.]

[1] Hobson, p. 22.

Extractive Industries: Mining.[1] Local mining was not of great importance until well into the eighteenth century. Even as late as 1720, England imported 20,000 out of the 30,000 tons of iron required for her hardware manufactures. At this date it is estimated that the mining of iron and manufacture of hardware employed about 200,000 persons. Copper, brass, and tin, were comparatively unimportant.

In a word, lack of power, of adequate machinery, and of methods kept man, until near the close of the period, almost helpless in the presence of the vast coal and iron deposits of England.

Extractive Industries: Lumbering and Fishing. Although the iron smelted was inconsiderable in quantity, it cost England a great amount of timber during the seventeenth and the eighteenth century. For the purpose of smelting, timber was recklessly used during much of the period. The decreasing forests were also called upon to furnish an increasing amount of timber for shipbuilding.

As to fishing, it must be supposed that fish had always been taken in larger or smaller quantities along the coasts of England. But, during Tudor times (1485-1603), fishermen were greatly stimulated by various national laws which had for their ultimate purpose the building up of a large merchant fleet manned by skilful seamen. These laws were of two kinds: first, measures designed to increase the consumption of fish—for example, Englishmen were to eat fish two days in the week the year round; second, measures which provided bounties to successful fishermen. Although the first of these laws could not in the nature of the case be universally enforced, yet, because of legislation and for other reasons, the English developed a numerous and hardy class of fishermen. During the seventeenth century they were so successful as to wrest the local herring fisheries from the Dutch, who had long monopolized them. From the very first, Englishmen have had their full share of the Newfoundland cod-fishing.[2]

[1] Hobson, p. 23.

[2] Cunningham and McArthur, pp. 21, 124, 125.

Transportation: The Ways.[1] If some adequate idea of the transportation facilities of this long period can be gained it will help us more, probably, than any other one thing to understand the marvelous differences between the present century and the eighteenth. First, what were the ways by land and by water? After the Roman roads decayed, it does not appear that any adequate attention was given to roads in England until late in the eighteenth century. Throughout the middle ages they were left almost entirely to private care. "Even as late as the middle of the sixteenth century, the public ways appear to have been little better than tracks made at random through the fields; in dry weather they might have been practicable, but in the winter season their condition must have been dreadful. The only attention bestowed upon them by the legislature until the time of Mary I. (1553-1558) amounted to an injunction to the neighbouring proprietors not to plough them up, and enclose them as part of their lands."[2] Mrs. A. S. Green tells a story relating to a highway in the market town of Aylesbury in 1499, which seems almost incredible. A glover with his wares was on his way to this town.

"It happened that an Aylesbury miller, Richard Boose, finding that his mill needed repairs, sent a couple of servants to dig clay, 'called ramming clay,' for him on the highway, and was in no way dismayed because the digging of this clay made a great pit in the middle of the road ten feet wide, eight feet broad, and eight feet deep, which was quickly filled with water by the winter rains. But the unhappy glover, making his way to the town in the dusk, with his horse laden with paniers full of gloves, straightway fell into the pit, and man

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[1]Cooley, *Theory of Transportation*, Publications, American Economic Association, vol. IX, No. 3, ch. i, New York. The reader is referred to this work for a sociological study of transportation. The division of the subject into the sub-heads "The Ways," "The Vehicle" and "The Motive Power" is Mr. Cooley's.

[2]Garvey, *The Silent Revolution*, p. 9—1852, William & Frederick G. Cash, London.

and horse were drowned. The miller was charged with his death, but was acquitted by the court on the ground that he had no malicious intent, and had only dug the pit to repair his mill, and because he really did not know of any other place to get the kind of clay he wanted save in the high-road.'"[1]

After 1523, various acts of Parliament were passed relating to roads, but they were not improved much until well into the eighteenth century. A series of acts establishing turnpikes and authorizing the collection of tolls for their repair began in the reign of Charles II. (1660-1685), and were generally operative throughout the eighteenth century, so that by the first of the nineteenth century, roads were, in comparison with the past, in good condition.

Still, these turnpikes did not extend over all England, and though lauded by some travelers were execrated by others. The following picture of transportation facilities of the middle eighteenth century is probably fairly accurate:

"Agricultural produce was almost entirely for local consumption, with the exception of cattle and poultry, which were driven on foot from the neighbouring counties into London and other large markets. In the winter, even round London, bad roads were a great obstacle to trade. The impossibility of driving cattle to London later than October often led to a monopoly of winter supply and high prices. The growth of turnpike roads, which proceeded apace in the first half of the century, led to the large substitution of carts for pack horses, but even these roads were found 'execrable' by Arthur Young, and off the posting routes and the neighborhood of London the communication was extremely difficult. 'The great roads of England remained almost in this ancient condition even as late as 1752 and 1754, when the traveler seldom saw a turnpike for two hundred miles after leaving the vicinity of London.'"[2]

[1]Green (A. S.), vol. II, pp. 31, 32.

[2]Hobson, p. 25. Compare Gibbins, 354, 355.

In regard to water ways, some attention had been given to the rivers and harbors before 1750, but it was not until after this date that the Duke of Bridgewater practically inaugurated the great system of canals which soon connected many rivers and important towns. By means of these canals the internal transportation of heavy commodities, especially coal, for considerable distances was first made possible in England.[1]

Transportation: The Vehicle. If water ways were still in a primitive condition at the middle of the eighteenth century, and if roads could be called good only in comparison with previous ones, at the end of the century, what can be said of vehicles?

As to ships, we know that they were such that the whole Atlantic coast of America had come to know them, and that the Pacific and Indian oceans were growing accustomed to them. The world is greatly in debt to the ships of this period. We know also that the English ships did not suffer the Spanish Armada to land an army in England, and that English colonists and English trade more than held their own in competition with all the rest of Europe. In part at least these results were due to English ship-builders and sailors, who were continually encouraged and often substantially aided by national legislation.

For the transportation of merchandise, packhorses were only partially supplanted by carts during the first half of the eighteenth century. Persons also, until the time of Elizabeth (1558-1603), must ride either upon horseback or in a horse-litter. Doubtless either of these methods was for a long time more comfortable than the rude coaches which were first used, and we find Arthur Young traveling on horseback in the last quarter of the eighteenth century.

The first coach is said to have been used by Queen Elizabeth in 1564.[2] "These first coaches were vast, unwieldy structures of timber and iron, which rested on the axle with-

[1]Hobson, pp. 25, 26.
[2]Garvey, pp. 45, 46.

out the intervention of springs, or any other contrivance to break the force of the tremendous bumps and shocks which every moment threatened to dislocate the frames of the passengers. It required six, eight, sometimes ten, horses to drag those ponderous vehicles at a walking pace through the series of ruts, gullies, and quagmires which were then called roads, and what with the groaning and creaking of the machine itself, and the shouting and flogging of the postilions, it may be a question whether the grandeur of the new mode of conveyance compensated for its miseries."

In spite of their discomfort, however, the use of coaches so increased that, in 1673, we find a seventeenth century croaker bemoaning the fact that coaches, carrying eighteen passengers each, made the distance from London to York, Chester, and Exeter in four or five days. "He then calculates the vast amount of employment those eighteen persons would give to grooms, farriers, innkeepers, hostlers, saddlers, etc., if each were to ride his own horse instead of adopting the revolutionary practice of clubbing for a common conveyance."[1] Although it must be supposed that these coaches slowly approached the patterns with which we are familiar in the tally-ho and modern coach, still it must be remembered that the coach in some form was the limit of comfort and speed in land travel during the most favored years of the most favored century of this long period.

Transportation: Motive Power. During the last half of this period, therefore, we may think of cumbrous vehicles for passengers and rude carts for merchandise coming slowly into use upon the gradually improving turnpikes of England. At best, however, they were all painfully drawn by the puny strength of panting animals. Upon the water likewise, although English sails were now upon every sea, commodities, letters, dispatches, and men themselves were all continually at the mercy of the inconstant wind.

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[1]Garvey, p. 50.

Transporters As a Class.

Although Mr. Rogers[1] thinks the roads of the thirteenth and fourteenth centuries were better than in the first half of the eighteenth, and that there was a class of men in the earlier period who devoted themselves wholly to carrying goods for pay, yet we certainly find many signs in the second half of this period of a growing differentiation of a transporting class. Coaches for passengers have already been mentioned. In a general way, also, increase in trade that was not narrowly local, and the improved facilities for transport of all kinds would necessitate an increasing specialization of persons for the carrying business.

In addition to these considerations, one special illustration may be mentioned. James I. (1603-1625) organized a body of messengers to carry letters and dispatches more regularly than had before been possible by special couriers. Charles I. (1625-1649) improved upon this organization and established a rate of postage over a few roads for England and Scotland. These mails were carried by boys on horseback, at the rate of five miles an hour, when they were not delayed by losing their way and were not stopped by robbers. Important messages were still sent by special couriers. Cromwell, in 1657, and Queen Anne (1702-1714) still further improved the postal service so that the basis of the present system was laid. But the expense was so great that only the rich could afford to send frequent letters. "Poor persons living in different parts of the country were then [early eighteenth century] more completely separated from one another than the settler in Australia is now from his friends in England, though the whole mass of terraqueous globe intervenes between him and them."[2]

In concluding these paragraphs on the condition of transportation during the period of the Domestic System of industry, it must be said, that transportation of heavy goods long distances by land was rarely attempted; that, though there was

[1]Rogers, p. 135.

[2]Garvey, p. 54.

now an increasing number of transporters, most of the carrying was still undifferentiated from the work of extractors and transformers on the one hand and from the work of transferrers on the other; and that, in consequence, most of the inland transportation that had developed was still, as for centuries past, toiling along the country ways that radiated from towns into tributary agricultural areas rather than along the more ambitious turnpikes that were being constructed between these towns.

Transferring: Various Companies.[1] In addition to the Merchants of the Staple, previously mentioned, whose business was mostly in the export of raw materials, there grew up during this period companies of merchants for internal trade, and Merchant Adventurers for pushing foreign trade in manufactured articles, especially cloth.

Various other special companies more or less under national supervision and, as a rule, with national consent and a charter, were also formed for both political and economic purposes. The East India Company, The Plymouth Company, The London Company, and The Hudson Bay Company are familiar names to all of us. The part they played in the opening up of trade with new lands, in colonization, and in the political organization of colonies can hardly be overestimated. India and North America possess many traces of their activity to this day. The Chartered Company of South Africa, which a few years ago came into such political prominence on account of its friendly attitude toward the attempted raid of the Transvaal by Dr. Jameson, and later was such an important factor in the war between the English and the Boers, is a good example in our times both of the economic and the political possibilities of such companies.

Transferring: Uncertainty of Foreign Markets. During the reign of Henry VIII. (1509-1547), all the trade of the transferring companies with the territory subject to Charles V. of Spain was for a time cut off. How this affected the English merchants,

[1] Gross, vol. I, pp. 148-155.

and, through them, all connected with the manufacture of cloth is told by Professor Ashley[1] in a quotation from a contemporary historian, Hall, as follows: "All broad-cloths, kersies, and cottons lay on their hands. Insomuch as when the Clothiers of Essex, Kent, Wiltshire, Suffolk, and other shires which use Cloth-making, brought clothes into Blackwell Hall, of London, to be sold, as they were wont to do, few merchants or none bought any cloth at all. When the Clothiers lacked sale they put from them their spinners, carders, tuckers, etc., and such other which live by clothmaking, which caused the people greatly to murmur, and specially in Suffolk."

Compare this clogging of the activity of foreign merchants, clothiers, master artisans, journeymen, apprentices, and even farmers who raised the wool, with the comparatively stable conditions of the economic activity of the population during the old Norman days of self-sufficing Family Industry. England itself could no longer live an isolated economic life. But this foreign market was more important in the cloth trade than in any other, and the bulk of English industry, even in the transforming group of occupations, should perhaps still be thought of as taking place within homes for home consumption and for small town markets.

Transferring: Natural Economy and Money Economy.[2]

Some writers speak of the days of customary exchanges by barter as a period of natural economy, and of times when money payments are made on the basis of a contract as a period of money economy. Only when money economy prevails can each new contract be made on the basis of the conditions existing at the time—little affected by custom. Indeed, goods and services often continue to be sold for customary prices for a long time after barter has given way to money payments.

In any nation, as the custom of barter grows less common, the practice of money payments grows more common. In

[1]Ashley, vol. II, p. 231.

[2]Cunningham and McArthur, pp. 140, and following. Compare also Ashley, vol. II, p. 395.

England at the time of Domesday Survey, barter—natural economy—was most common, although money payment—money economy—was known. Just when money payments became more common than barter it is hard to say. During the Domestic Period, however, so far as the control of gilds broke down, and so far as trade extended from one town to another and to foreign countries, money payments became the rule. On the other hand, so far as trade still continued to be between neighbors and under the control of local gilds, barter was doubtless very common.

Transferring: Coinage, Prices, and Banks.

Coinage became more and more the care of the national government. Henry VIII. (1509-1547) and Edward VI. (1547-1553) debased the coinage by reducing the size of coins, and adding to the amount of alloy in them; and men accordingly refused to give so many other goods for a coin as formerly. Prices went up rapidly. Elizabeth (1558-1603) restored coins to their old degree of fineness, but did not restore their weight. Silver also came in from the New World, so that coin was more abundant. Men, therefore, still refused to give so many goods as of old for a coin. One small coin, when coins were many, did not seem so desirable to Englishmen as one large coin of equal fineness had seemed when coins were not so many. On account of this decrease in size and increase in number some writers estimate that a coin in the time of Charles I. (1625-1649) would buy only one-third or one-fourth as many commodities in general as a coin of the same name in the time of Henry VII. (1485-1509).[1]

Another difficulty that had to be met, and it is still puzzling statesmen, was the adjustment of the coinage of England to that of other nations. The increase in foreign trade necessitated the continual payment of trade balances, and the maintenance of armies in the Low Countries by William III. (1689-1702) required money of a higher standard than the English to be spent there. At one time it took one hundred

[1]Cunningham and McArthur, p. 145.

and thirty-three English pounds to buy the supplies in the Low Countries that one hundred pounds of the local money would buy. Better coins were therefore minted in England.[1]

In the eighteenth century, the changing values of gold and silver caused the present day problem of maintaining a proper ratio so that coins of both metals would circulate freely, to come into special prominence in England. Various changes in the weight of coins were made until 1816, when England tried to cut the Gordian knot by giving up the attempt to keep the coinage ratio of gold and silver the same as their market ratio, and by making gold the only standard. That this attempt has not been wholly satisfactory for all persons in all nations, the presidential campaign of 1896 in the United States is proof.

The heavy expenses of the government in foreign wars, and the necessities of traders, caused the foundation, in 1694, of the Bank of England, which has remained to this day. By this bank large stores of gold and silver, that had formerly lain in the hands of individuals and had been loaned to traders chiefly through the agency of private firms of goldsmiths, were collected and made a permanent fund from which both the government and private persons could borrow. With large reserves of gold in its vaults, and with the active support of the government guaranteed, the bank soon issued paper promises to pay, in the form of bank notes, which henceforward furnished a more convenient medium of exchange than Englishmen had ever before known. During most of the time since their first issue these notes have been exchangeable on demand at their face value for coin. When they were not so exchangeable, it was for the reason that they had been issued too far in excess of the coin that was in reserve.[2]

Servants.

In literature, this period included the Elizabethan writers, the contemporaries of Milton, Pope, and Dryden, and the companions of Addison. The

[1]Cunningham and McArthur, p. 147.

[2]The same, pp. 148-150.

Reformation ended the long allegiance of England to Rome, Puritanism grew up, and toward the close of the period Methodism inaugurated a great religious and philanthropic revival. Newspapers were started, the first English novel was written, and the era of modern science and invention was on the threshold of realization. Among statesmen, Wolsey, Walpole, and William Pitt may be named. The Renaissance was one not only of literature but of a larger life on all sides for the upper classes. Notwithstanding this, the condition of the masses, even near the close of the period during the days of William Pitt, is described by Mr. Green[1] in these words: "At the other end of the social scale lay the masses of the poor. They were ignorant and brutal to a degree which it is hard to conceive, for the increase of population which followed on the growth of towns and the development of commerce had been met by no effort for their religious or educational improvement. Not a new parish had been created. Schools there were none, save the grammar schools of Edward and Elizabeth, and some newly established 'circulating schools' in Wales, for religious education. The rural peasantry, who were fast being reduced to pauperism by the abuse of the poor laws, were left without much moral and religious training of any sort."

Clearly the services of statesmen, writers, the clergy, and of teachers were not yet enlisted ideally in the cause of human life as such. Visions of economic, naval, military, and national greatness floated before the eyes of the leaders of the servant class in England, but their eyes were yet blinded to the ideal of an abundant human life for every human being.

Personal and domestic servants must be included at least by implication in the section on "Laborers."

Dependents.[2] During the fifteenth and the sixteenth century both the unfortunate poor and unworthy beggars greatly increased. Responsibility for the care of the poor had

[1]Green (J. R.), *Short History of the English People*, ch. x—1895, Harper Brothers, New York.

[2]Ashley, vol. II, pp. 339, 353-359.

been laid upon local charity in general, and careless giving was the result. There was no means of uniting the efforts of different persons and institutions. It therefore became easy for a man who did not choose to work to live without it.

At the same time, many honest persons suffered much because only those who begged were helped. Eviction from manors, the suppression of monasteries by Henry VIII. (1509-1547), the difficulty of finding and keeping employment in those transforming industries that now sent their products, not to a well-known and steady local market, but to a distant, unknown, and fluctuating foreign market, and the great trains of "idle and loitering serving men whom wealthy gentlemen carried about with them at their tails" tended all the time to swell the army of dependents. Certain it is that for one cause and another, the sixteenth century found the problem of its dependents a perplexing one.

Accordingly, a long series of legislative acts which were summed up in the Elizabethan Statutes of 1601 attempted to deal with the problem. The dependents who could not work were to receive treatment different from that given to those who could work. The first were to be supported, not by indiscriminate gifts, but from compulsory poor-rates in the hands of parish officers. The able-bodied, whether willing or unwilling to work, were to be given work by the same local officers.

No longer was each man a member of a compact feudal community whose reciprocal services and wealth provided for each one's want. Men had become more nearly free in theory, but many of them were finding the task of getting a living one of growing uncertainty. This is the problem which law-makers have had to face from a time before Elizabeth (1558-1603), and it has not yet found a complete solution: "How can we have a working class of free men, who shall yet find it easy to obtain sustenance?" [1]

[1]Toynbee, *Lectures on the Industrial Revolution in England*, pp. 98, 99—1884, Rivingtons, London.

Society: The Breakdown of Gild Regulations. When Englishmen had fairly begun to make cloth at home, instead of to export raw wool, the Merchant Adventurers pushed its sale to Venice, Prussia, Denmark, to the shores of the Black Sea, and even to the great Russian Fair at Novgorod.[1] Accordingly, what has been described as the Domestic System of manufacture grew up. The traders and master craftsmen within a gild desired to avail themselves of the services of workmen, both in town and country, who were not members of the gild, in order to have as much cloth as possible to sell in this great new foreign market. The skilled workers within the gild suffered from this invasion of their monopoly of work. Manufacturers in any part of England who could produce cloth the cheapest, inevitably threw into confusion the wage scale of all their more conservative competitors. The great mass of workers not members of any gild in towns, and rural workers, in hours and seasons of leisure from their farming, strove with each other for an opportunity to do a little spinning and weaving regardless of apprenticeship and authorized conditions of labor. Therefore the minute gild regulations respecting number of apprentices, length of apprenticeship, place of work, length of the working day, amount of wage, etc., were often evaded or openly disregarded. The industry had become too large and too headstrong to be driven in any such harness of strings as the trade rules of a single town. Nothing weaker than the national authority could longer control the woolen industry.

Society: Subordination of Towns to the Nation. Under the stress of slowly working economic forces combined with great changes in national policy which will soon be mentioned, the economic and political independence enjoyed by towns in the fourteenth and fifteenth centuries rapidly gave way in the sixteenth. The town as a unit of industrial control gave way

[1]Green (A. S.), vol. I, p. 53.

to the nation. "Town economy"[1] gave place to "national economy."

Towns had made so many intertown agreements about trade that no one of them controlled its own trade as formerly. Manufacture had escaped from the gild control into the country villages and farmhouses, and towns were giving up the "survey of victuals," and town purchases of food for the inhabitants, thus throwing the individual more on his own responsibility in the task of getting a living.[2]

The Tudor sovereigns (1485-1603) also made the representatives of towns in Parliament more like local officers to carry out the royal will than real representatives whose purpose was to get Parliament to do what the towns willed.

"Under the new conditions the individual life of the borough ceased to have the same significance as of old, and an era opened in which its highest destiny was to be employed as an instrument of the royal will for national ends, and its only glory lay in forming one of the members of a mighty commonwealth."[3]

Society: The National Ideals.[4]

From the time of Richard II. (1377-1399) national authorities seem to have had more or less of an idea that English industry as a whole should result in an increasing store of bullion—gold and silver. As England did not possess mines of precious metals, this bullion must therefore come from foreign trade. And it could come from foreign trade only on condition that English merchants sold abroad more goods than they bought. As other nations also sought to do the same thing, not much headway was made until a method was worked out. This method sprang from the theory that England might buy as many goods as she chose abroad, provided she would sell

[1]Schmoller, *The Mercantile System*, pp. 1-47—Economic Classic Series edited by Ashley—1896, The Macmillan Co., New York.

[2]Ashley, vol. II, pp. 42-54.

[3]Green (A. S.), vol. II, p. 448.

[4]Cunningham and McArthur, pp. 126-133 and following.

them again for a surplus; or she might buy raw material abroad, manufacture it in England, and sell the product abroad for another surplus. Thus manufacture and foreign trade were more productive, from the point of view of the nation as a whole, than the extractive industries, because the net result of the former to the nation might be an increased store of gold and silver. This theory of the productivity of manufacture and foreign trade is usually called mercantilism.

Another idea which went with mercantilism was that, even if agriculture did not result in an increase of gold and silver, an adequate food supply raised in England was necessary to make the nation independent of other nations, and, therefore, agriculture too must be encouraged.

The nation must become great, and able to act independently of other nations. To this end money must be stored up and agriculture stimulated, so as to furnish an abundant food supply. To the end that gold and silver might flow in, manufacture, foreign trade, and all industries that directly promoted manufacture and foreign trade must be encouraged.

This was the national program of successive rulers during most of the time from Henry VII. (1485-1509) to George III. (1760-1820). All industries of individuals, companies, and colonies, which seemed to interfere with this program were rigorously repressed.

The encouragement of English agriculture by the Corn Bounty Act of 1689 and by the Corn Laws of 1773; the encouragement of English trade, shipping, and sailors, by the Navigation Acts of 1651 and 1660; and the continual discouragement of American manufacture, shipping, and transportation; find their fundamental explanation when considered as illustrations of this great national purpose.

Society: Summary of National Advance During Domestic Period.

At the beginning of the period, industry continued to be irregularly supervised by the national authority, chiefly at the dictation of local need and in accordance with the personal devices of the Crown for raising revenue. All trade and

manufacture were considered to be proper subjects of practical control by petty regulations of various fraternities, themselves under the control of isolated town authorities. But long before the end of the period all industry, including agriculture, transportation, and many services, had been spurred, curbed, and turned to right and left by national authority for the sole purpose of securing a supposed advance in national welfare.

Parliament was for a while eclipsed by the personality of the Tudor sovereigns (1485-1603), but at length asserted its supremacy by beheading Charles I. (1625-1649), deposing James II. (1685-1688), crowning William and Mary (1689-1702), and, as 1776 drew near, by so insisting on its superiority to colonial legislatures in America as to hasten the war for independence.

Finally, when Henry VII. became king, in 1485, the towns had not yet become, in fact, subordinate to the national authority in a great number of most important economic and political functions, but in 1760, when George III. was crowned, not only had England become a centralized power within itself and become united with Scotland, but Wolfe had just crowned the enterprise and daring of English colonists by wresting the control of North America from the hand of the French commander Montcalm on the Heights of Abraham, and Clive had recently begun "the Empire of England in the East" by his great victory at Plassey.[1]

Landlords. A great confiscation of the lands held by the monasteries followed their suppression by Henry VIII. These estates, together with many of the personal estates of the king, were bought up by the wealthy traders. Thus a great accession was made to the landlord class from the hitherto socially inferior middle classes.[2]

Under Charles II. (1660-1685) also, the old feudal conditions of military service were ended, and for all free-holders feudal

[1]Green (J. R.), p. 754.

[2]Garnier, vol. I, p. 27.

tenancy was converted for all practical purposes into full ownership.[1] Successors to the old feudal tenants were likewise becoming as secure in their tenancies as if they were absolute owners.[2]

Unrestricted right to dispose of land did not exist, but the use and enjoyment of it became, during this period as never before, a mere matter of contract, unhampered by feudal custom. The men who could pay the most money could henceforth practically own a piece of land. In such a contest a relatively small number of men came to own, so far as English laws allowed ownership, all the land, just as under the feudal system there was a comparatively small number of lords of manors. But there was now this difference. Under the newer form of holding land all not owners in this partial sense had to make a further bargain, in competition with everybody else who wanted land, for a chance either to cultivate or to live upon it. Under the older form nearly everybody had by custom enough land upon which to live, and usually also some land to cultivate.

Capitalists.

During this period capitalistic production was of increasing importance. Signs of this fact abound. Larger investments were required for the herring fleet and for the distant cod-fisheries of Newfoundland. Large sheep-farms could pasture hundreds and even thousands of sheep. (In 1534, Parliament forbade any one man to keep more than two thousand sheep.[3]) The iron and coal mines also required a greater outlay in tools and auxiliary material, as they were more extensively worked. Coaches and carts and shipping for transportation meant capitalistic investment as a rule. The same was true of canals. The traders also made investments in goods which were carried by caravans and

[1]Sato, *History of the Land Question in the United States*, p. 15—Johns Hopkins University Studies, 4th series, 1886.

[2]Pollock, *The Land Laws*, p. 49—English Citizen series, 1883, The Macmillan Co., New York.

[3]Ashley, vol. II, p. 268.

sailing vessels to distant lands, so that returns on the investments were delayed for months and sometimes years.

These examples, and many more that might be given, should serve to make clear the fact that capital was playing an increasingly important part in the production of this period. As a consequence, therefore, an increasing number of men and women were becoming dependent upon those who had capital, for a chance to work.

The loan funds of the time were also greatly increased and concentrated in the Bank of England. Thus borrowing, both for productive purposes and for luxurious living, yes, even for vice and war, became easier. In these loan funds was gradually developed the power of the nation and of its great traders, to turn the energies of large bodies of men quickly in this direction or in that as the political exigencies of the time or the possibilities of economic gain required.

A reasonable interest on such funds, even where the lender did not become a partner in the enterprise and therefore a sharer in the risk, was, during the sixteenth century, for the first time thought by English religious teachers to be right.[1]

Undertakers.

With the increase in the importance of capital in the form of tools, of transportation facilities, of raw materials, of finished products (lacking only the addition of time and place utilities before they became consumer's goods in the possession of consumer), and with the increase of capital in the form of loan funds, the economic importance of undertakers was also becoming greater during this period. Just so far as the various processes of the textile manufactures were divided up and assigned to different groups of workers, was the function of the undertaker necessary to unify the different partial processes into one continuous and well-adjusted complete process of manufacturing an article for the consumer's need. Just so far as the capital invested was large, markets distant and uncertain, loan funds available for great undertakings, and prizes possible to the enterprising and successful

[1]Ashley, ch. vi.

trader,—so far was the special ability of the undertaker necessary to trade. And, finally, it was to the far-sighted undertakers, who saw what facilities for the transportation of coal and other heavy commodities would do for England, that the inauguration of the great system of canals was primarily due. Plainly enough the industrial undertakers had already begun to direct that combination of natural resources, labor, and that storage battery of human energy which is formed by the union of land and labor, and is called capital, which was to be so remarkable during the nineteenth century.

Directed Workers.

The most significant fact about the common laborers of this period is probably that money wages were becoming universal. The method of determining these wages, however, had not yet become so impersonal, so purely competitive, so absolutely regardless of any relation between employer and employed except the "Cash Nexus," as Carlyle calls it, as has been the rule during the period of the Factory System. Wages had all along been affected by society through custom, by regulations of gilds, by town ordinances, by national statute, and by local justices of the peace. Often too, no doubt, these interferences with the wage-contract were dictated by the employers for their own welfare rather than by the wage-workers for the welfare of the laborer. Still, employers and employed were commonly neighbors, and the number of employees of any one man was small, so that it was usually possible for him to know them all personally. If a workman's family was sick and in distress the employer was likely to know of it.[1] Some compensation through personal relations was therefore possible for the frequent unfairness in wages.

As the wage system grew up in England, to take the place of the old feudal relations between persons and to make men personally free, the bonds of personality were yet strong so long as employer and employed were permanent members of the same community. But this primitive form of the wage

[1]Taylor, p. 37.

system was now breaking up to the extent that the Domestic System of industry, with its uncertain markets, capitalistic production, and competing undertakers, was gaining a dominant place in the various industries of the time. In the woolen industry, and the textile industries in general, we have seen this domination to be well-nigh complete, while in many other industries it was still only partial. The wage system had become common, and the way was already open for its complete development on strictly competitive lines just as soon as the introduction of the Factory System of industry should render such development necessary to the greatest success of the capitalistic employer.

The Right of Private Property and Freedom of Contract. In other kinds of property than land the gradual emancipation of the person of the serf has carried with it an increasing security in the possession of property. Magna Charta contained only one safeguard for the property of a villein,[1] and the safeguards for the property of freemen were rather negative than positive—no "scutage" or "aid" was to be taken except for definite purposes, but by implication certain other dues not specified might be taken.[2] When Edward I. (1272-1307) confirmed the Charter in the closing years of the thirteenth century, this liability of property to arbitrary taxation by the king was greatly restricted and made dependent upon the will of Parliament. Other steps toward freeing property from the danger of arbitrary taxation were taken during the memorable struggle between Charles I. and Parliament, and again when William and Mary became king and queen by act of Parliament in 1689. In theory, henceforth, all interference with private property and contract was to be in accordance with the will of the people, as expressed by their representatives in Parliament. What classes of the people were dominant in

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[1]Stubbs, *Select Charters*, p. 299—1870, The Clarendon Press, London.

[2]The same, sections 12, 20, 28-32, 38-40, of *Magna Charta*.

Parliament, therefore, was of fundamental importance in connection with the question of taxation of private property and interference with individual contracts.

How agriculture, shipping, trade—all industries considered important—were stimulated, held back, and turned into new channels by the mercantilist policy of Parliament to build up a great national power has already been suggested. When this policy is recalled to mind now it will be seen at once how dependent upon society in the form of the national government individuals were, in respect to the value of their property, and the conditions of their making business contracts with each other.

In theory, all Englishmen had become able to hold private property, in everything except land, with the three implications of use, enjoyment, and alienation. In practice, the economic policy of the government often caused a violent interference with each phase of this right.

In addition to the contracts which result from the right to dispose of one's property in goods, or to buy the goods of another, is the wage contract. In theory this was still subject to regulation in a given locality by the officers named by Parliament, but in practice it was coming more and more to be left to employers and employees themselves.

AMERICA

Limits of the Period. As English colonization of America did not begin in earnest until 1607 in Virginia and 1620 in New England, it will be seen at once that the Domestic System of industry could not have begun so early, by at least a hundred years, in America as in England. On the other hand, it did not give place to the Factory System so early as in England, partly on account of adverse English legislation. Perhaps the most convenient limit for our present purpose will, therefore, be the beginning of our national life under the Constitution in 1789.

Colonization: Increase of Population: and Westward Migration of Settlers.[1]

During this period the thirteen colonies were planted upon the Atlantic margin of the continent. How they struck their roots into the soil, developed local democratic institutions, became conscious of each other's presence and of their common relations to England; how they helped England to conquer France; and how, at length, they drew closer together, and by the aid of this same France, won their political independence;—all this has been a familiar tale at every American fireside for more than a hundred years. By 1790, therefore, the scouts of the westward moving army of settlers had passed beyond the lower waterfalls of the Atlantic rivers, where they had first paused, had been overtaken by detachments from the main body of settlers upon the tablelands of the eastern Appalachian slopes, and had pushed on over the mountains and down the Ohio River. Parts of what is now Tennessee, Kentucky, Ohio, Indiana, and Illinois were thus early familiar to these pioneers. Indeed, one of the least known but most thrilling and important campaigns of the whole Revolutionary War was that of George Rogers Clark of Virginia, who gained from the British for the United States a title to the whole Northwest Territory by his brilliant conquest of Kaskaskia and Cahokia upon the Mississippi, and Fort Vincennes upon the Wabash.[2]

In 1790 the first national census was taken and the population found to be 3,929,214, about the number now living in the city of Greater New York. Of these only about three and one-third per cent lived in towns or cities of 8,000 inhabitants. The most thickly settled areas were those along the lower slopes of navigable rivers.

Land Tenure.[3]

Up to the time of the Revolution, all land titles in the Colonies, as in England, had their legal source in the Crown. In practice those individuals and

[1]Turner. Compare also Hart, *American History Told by Contemporaries*, vols. I and II—Longmans, Green, & Co., New York.

[2]Roosevelt, *The Winning of the West*, vol. II, chs. ii, iii—1889-1896, G. P. Putnam's Sons, New York.

[3]Sato.

groups of individuals who could maintain themselves against the Indians and appropriate certain areas for their own use were not usually interfered with. "In all the colonies lands were cheap and the actual occupant or settler was preferred and protected."[1] As a rule, this process was facilitated by certain companies and proprietors to whom various sovereigns had given charters, often duplicate, to vast areas of land. "All the royal charters, beginning with the charter to the Virginia Company in 1606 and ending with that granted to the trustees of Georgia in 1732, granted lands in free and common socage, that is, in free tenure without military service."[2] Sometimes the payment in return for these grants was a price once for all, as in the case of Penn; sometimes it was a rent; and sometimes a share in profits. "Profits, however, there were none, and rents were small."[3] But whether the occupancy of the land by individuals was authorized, for a nominal return, directly by the Crown, by the original companies, by proprietors, by later municipal or colonial authorities, or simply was gained from the Indians, as in the case of settlers in Connecticut and Rhode Island, the fundamental fact was that a continent of unappropriated land invited settlement, and possession became more than nine points in the law.

The settlers were, as a rule, free men; and the practical ownership of as much land as they could work was easy.

Outline of English Industrial Legislation Respecting the Colonies from 1651-1750.[4]

"In 1651 it was enacted that all colonies should export only to England such products as they had to sell, and should send them in English-built ships. In 1660 the import trade was similarly limited. In 1672 taxes were imposed on the trade between the different colonies. In 1697 the exportation of wool, yarn, or woolen manufactures to any place whatever

[1]Donaldson, *The Public Domain, Its History, with Statistics*, p. 467—1884, U. S. Government Publications.

[2]Sato, p. 16.

[3]Hinsdale, *The American Government*, p. 26—2d ed., 1895, The Werner School Book Co., Chicago.

[4]The same.

was prohibited. In 1719 the House of Commons condemned all American manufactures as tending to independence. In 1732 the exportation of hats was forbidden; and in 1750 rolling mills, iron furnaces, and forges were declared nuisances to be suppressed by the colonial governors. The finest pine trees in the forests were marked with the 'broad arrow,' denoting that they had been selected as masts for the King's ships, and that they must not be cut by the lumbermen. Even Lord Chatham said that in a probable contingency he would not allow the colonies to make a hobnail."[1]

How the attempt at rigid enforcement of these and similar laws after 1760 directly hastened the struggle for independence, is more than a twice-told tale. But, previous to 1760, however repressive in intention, it is doubtful if, on the whole, they did much to retard the development of colonial manufacture and trade that might otherwise have taken place. Still, against such a background of adverse economic legislation the whole industrial life of the period must be drawn.

Extractive Industries: Furs and Grazing Animals.[2] Until within a decade or two there has been a frontier in this country, roughly separating lands belonging to Indians upon the west and the most advanced permanent white settlements upon the east. Beyond this frontier the fur dealer pioneered his way along water courses and Indian trails to barter all kinds of goods dear to the Indian heart for the valuable furs which the Indian knew best how to secure. This frontier has been utilized, since long before the close of the eighteenth century, for grazing large herds of cattle and horses. In early times this was especially true on the western frontier of the southern states, Virginia and the Carolinas. The lack of large markets during the eighteenth century set a limit to the

[1] Hinsdale, pp. 59, 60.

[2] For a popular account of the industrial life of one hundred years ago, see McMaster, *Century of Social Betterment*—"The Atlantic Monthly," vol. 79, pp. 20 and following.

grazing industry during the period now under consideration, but furs were of so much importance for export that the contest between France and England for the control of North America was to a great degree occasioned by the desire of each to control this trade.

Extractive Industries: Agriculture. Agriculture for subsistence, for comparatively small local markets, and for export was by far the most important industry throughout the period. The small farms of intensive agriculture in the north, and the large estates of extensive agriculture in the south, were typical for those localities. The cereals long known in England, also maize, tobacco, the potato, rice, hemp, flax, cotton, and the grasses, were the most important crops.

Methods of tillage were primitive, the art of fertilization almost unknown, and the varieties of farm products, both vegetable and animal, as yet little improved by culture and breeding. Yet so abundant was the unexhausted land that in 1791 there were exported 619,681 barrels of flour and over 1,000,000 bushels of wheat.[1] Tobacco was also a constant export product.

Extractive Industries: Lumbering and Fishing. Over most of the territory settled, a reckless "slashing and burning" of timber had to precede agriculture. So far as the forests were concerned this was an absolute waste which has been repeated in new sections of the country until it has become well-nigh criminal. Lumber was also gotten out for buildings, for native ships, and for exportation. So important did the export of lumber become that "in 1792, 65,846,024 feet of lumber, 80,813,357 shingles, 32,039,707 hoops, staves, and headings were exported, while of timber, consisting of ship and other timbers, frames of houses, etc., large quantities were sent out."[2] Various other products of the forests, such as pitch, tar, and soap-ashes also formed a less important class of early exports.

[1] Wright, p. 74.

[2] The same, p. 73.

But the fundamental industry on the New England coast was fishing, and the most valuable of all the fish taken was the cod, which was exported in great quantities to Catholic countries. We are told that before 1640, "the free intercourse with the West Indies and the Western Islands, and the large trade with the great Catholic consumers of fish, had developed a vigorous commerce on the shores of New England."[1] And again, "the business of the fisheries enters into all the doings of the time."[2] Finally, "it was recognized at home that the English fisheries of Newfoundland were the greatest if not the only nursery for English seamen. When that trade flourished, it bred 10,000 seamen in a single year. The colonial fisheries were performing a like office, and were training a maritime people destined to acquire wealth, and to make a navy which in due season might compete with the royal power upon the seas."[3]

Extractive Industries: Mining. Iron was the principal metal worked during the colonial period, and this was obtained in most of the colonies from bog-iron ore, a form of ore that was deposited by water in swamps, at the bottoms of ponds, etc. This was so far utilized that, although the colonists imported much iron and steel in a form ready for use, they exported in 1771 over 7,525 tons of pig and bar iron.[4] This product went chiefly to England, and the tonnage just given was the maximum for any one year.

Transforming Industries: Variety and Value. As we have already seen, most of the people in the colonies were cultivators of the soil. As a rule these farms, plantations, and local groups of whatever sort were also largely self-sufficing in respect to rude manufactured articles. "English manufactures began in the home; there were few dwelling-houses in the rural parts of England in the seventeenth century which did not

[1] Weeden, vol. I, p. 164.
[2] The same, p. 247.
[3] The same, p. 245.
[4] Wright, p. 101.

contain a spinning-wheel or a weaver's frame. The busy hum of the one and the measured rattle of the other were heard in nearly every household. How natural, then, to expect to find in the homes of the Virginians of the same period men and women, who, in many instances, had been born in the mother country, and who clung to the habits as well as to the traditions of their race—[and] rude appliances for the plainest manufactures to cover their simplest material needs."[1] This household manufacture for home use was especially unlikely in Virginia, where tobacco could always be traded for goods sent directly from England. Still we are told that "there is no reason to think that in any year or series of years, however prosperous, the manufacture of woolen garments for rough domestic use fell into abeyance. From the middle of the [seventeenth] century to the close, there are few inventories of large personal estates among the items of which wool-cards and woolen-wheels do not appear."[2] The same authority enumerates the following kinds of manufacture as commonly performed upon the Virginia plantations: carpentry, joining, blacksmithing, coopering, tanning, shoemaking, etc., in fact, nearly all of the transforming processes absolutely necessary to the rural life of the time. In Virginia, however, all articles of manufacture other than the coarsest and absolutely necessary were brought from England in return for tobacco.

In New England, likewise, we are told of the period including the middle of the eighteenth century: "Manufactures proper, during our present period, show little that is new or interesting in their development. They range in importance from woolen homespun through rum and iron to flaxen fabrics, and a few attempts at making various necessaries. The manufacture and use of homespun woolen cloth—such a prime necessity—was so thoroughly incorporated in the

[1]Bruce, vol. II, pp. 398, 399.
[2]The same, pp. 468, 469.

domestic habits of the people that its relative industrial importance escaped much especial notice."[1] These home industries for domestic and narrowly local consumption were in their very nature affected to a minimum extent by adverse English legislation of whatever sort. In comparison with manufacture for export they must be thought of as of manifold greater importance and value throughout the whole colonial period. Mr. Wright makes the best possible comparison, but yet says that it is little better than a guess. Still, such a guess is interesting, and is recorded here for what it is worth. "Reasoning from such facts as are obtainable, it is probable that the manufactures of the United States at the close of the colonial period amounted to about $20,000,000."[2] Of these manufactures Mr. Wright estimates the value of exported goods to be about $1,000,000.

In variety, these manufactures were determined by the primary needs of colonists for food, clothing, and shelter, of slowly improving quality and variety; by a gradually increasing interchange of products between colonists in different latitudes along the coast; and by the minimum foreign market secured in spite of adverse English legislation.

Transforming Industries: Tools, Machinery, Etc.[3]

Such tools and machinery and motive power as were known in England previous to the great inventions of the eighteenth century were known and used in the colonies. All tools and machines were as yet simple and usually made by hand. Most of them were also moved by the human hand. Other motive power was furnished by animals, by the wind, and by the numerous streams of the Atlantic slope. Sawmills were used in the colonies early in the seventeenth century, and became very common before its close. Local gristmills were common in New England long before 1650. "In 1649 there were five water mills in Virginia, four windmills, and a great number of horse and

[1] Weeden, vol. II, pp. 678, 679.

[2] Wright, p. 102.

[3] Consult Wright, chs. vii and viii; Weeden, index; also Bruce.

hand mills." These rapidly increased toward the close of the century, and fulling mills for cloth were added. In New England, during the last quarter of the seventeenth century, "fulling mills were steadily established to dress the homespun cloth."

Various machines and appliances for working iron were also introduced into many of the colonies during the last half of the seventeenth century and during the eighteenth. Furnaces, forges, foundries, rolling mills, nail works, and wire mills were the most common, and these were found in the largest numbers in Pennsylvania and Massachusetts.

Printing presses and paper mills were gradually set up, especially in Boston and Philadelphia. Cambridge, Massachusetts possessed the first colonial printing press, in 1639. Georgia was the last colony to begin printing, the first press being set up in Savannah in 1762.

These larger mills and machines were used in great part to supplement the work of individuals upon the materials destined for home consumption. Illustrations of this are to be found in the gristmills which ground the grain of a community for toll, and in the fulling mills, which performed a similar service in thickening cloth spun and woven in the several homes and afterwards to be made into garments by the same hands.

Sometimes, also, they were used to furnish materials to the home workers, as in the case of rolling and slitting mills, which rolled iron into sheets and then slit the sheets into rods, which were made into nails on a hand anvil by many a farmer on winter evenings.

And, finally, these mills were sometimes the property of men who produced for a market as well as rendered assistance to home industry. Lumber, pig and bar iron, and potash have already been mentioned as articles of export. Cloth also was finally produced in the older parts of the colonies in such quantities as to be sent to the frontier.

Transforming Industries: The Domestic System.

These scanty illustrations suggest the main facts respecting the transforming industries of the whole colonial period. Almost the whole of such industry was of the early type called in Chapter I the Home System of industry. Home production for home consumption was the rule. Wherever the work of a household needed to be supplemented by larger and more expensive machines, a greater motive power, or the coöperation of a larger number of persons, this supplementary work was done in the immediate vicinity of most of the homes, sometimes under the immediate direction of the town authorities and sometimes by small capitalists. The same was true of the small amount of manufacture for a market. So far as the transforming industries of the time were not for home consumption, they were characterized more nearly by the methods of the Domestic System of industry than by any other. Spinning, weaving, and making of shoes and garments went on in the homes of the workers or in the small shops of master workmen. All transforming industries were closely associated with agriculture. There was no social gulf fixed between the employer and the employed. Tools and machinery were as yet comparatively simple, and did not bring together a large number of persons or allow of minute division of labor. Artisans in a particular industry were too few in any locality to give much opportunity for the elaborate gild regulations which had formerly existed in England. The Gild System of industry had no general development in America. So far as there was production for a market, therefore, our industries passed at once from the Home System to the Domestic System, and thence to the Factory System, which remains to be described in the next chapter.

Transportation.[1]

Throughout the whole of this period the transportation of most merchandise was by water. This was all the easier because most of the population lived near the coast or near the Atlantic rivers. In Virginia, boats often

[1]Consult Weeden, index; also Bruce.

came from England directly to the wharves of a plantation. "All the maritime places had nimble trading shallops flitting about the coast." This was in the last half of the seventeenth century, and must be thought of as, in the main, continuous throughout the period.

Travel upon land was all the while comparatively slow and difficult. Roads were looked after chiefly by town authorities which compelled the townsmen to work for a certain number of days annually—usually in proportion to their property—upon the highways. Streams were at first crossed by ferries, then by rude bridges for footmen and horses only, then, after about 1675, cart-bridges became common. These were usually built by several towns acting together, and later by county authority; and tolls were collected for passage. Boston had its first coach in 1669. At the end of the seventeenth century, "the post from Boston to New York took one week in summer; in the winter it went only once in a fortnight. About the beginning of the [next] century nearly all the modern roads were already laid out and the use of carts became general." This applies especially to the older and more thickly settled parts of the colonies. "In the far away districts, chaises were a curiosity. Judge Paine passed through Wells, Maine, in one in 1755. All the village thronged to Kimble's tavern to see it."[1]

On the whole, both domestic and foreign transportation of goods was to a great extent in the hands of traders and producers rather than of men who carried simply for hire. Still, there continually were instances of the latter. The following description of the seventeenth century "Yankee coasting skipper" illustrates what has just been said: "Generally part owner of vessel and cargo, always a trader and adventurer, he went from port to port beyond control of owners, who would not have directed him if they could. All the coast harbors, Milford, New London, Newport, Plymouth, Boston, Salem, Portsmouth, sent out and received

[1]Weeden, vol. II, p. 693.

these busy ketches and shallops,—transient hucksters of the sea. Skipper and boy often made the crew; if a sailor was added, he often carried a venture of his own, trading his way upward into mastership and ownership. The mackerel craft of the summer, in winter coasted among the southern colonies trading lumber and fish for grain and flour."[1] Some of these small vessels, in spite of navigation laws and petty colonial restrictions, not only went to the ports of the southern colonies, but penetrated to the West Indies, to Spain, Portugal, Gibraltar, England, and even to Guinea, Madagascar, and Syria.

The difference in cost between land and water transportation is well illustrated by the charges on wheat shipped from Northampton to Boston in 1669. For hauling from Northampton to the Connecticut River, one shilling was paid; thence down the river and along the coast, around Cape Cod, only eight pence. Thus the first two miles by land cost more than half the total freight charge from farm to market. Cattle and poultry were often driven to the larger towns, as we have seen was common in England.

To such limited, slow, and uncertain means of transportation as have been suggested, was the merchandise of the whole colonial period subjected.

The difficulties which passengers had to undergo, even toward the close of the period, are summed up very well by Benjamin Franklin, in 1754, in giving his reasons for fixing upon Philadelphia as a place of meeting for a Congress composed of delegates from all the colonies. These difficulties were not greatly lessened during the interval which elapsed before Washington made his journey on horseback from Mount Vernon to New York, in 1789, to be inaugurated President of the United States. Franklin writes thus: "Philadelphia was named as being nearer the center of the colonies, where the commissioners would be well and cheaply accommodated. The highroads, through the whole extent, are for

[1] Weeden, vol. I, pp. 259, 260.

the most part very good, in which forty or fifty miles a day may very well be, and frequently are, traveled. Great part of the way may likewise be gone by water. In summer time, the passages are frequently performed in a week from Charleston to Philadelphia and New York; and from Rhode Island to New York, through the Sound, in two or three days; and from New York to Philadelphia, by water and land, in two days, by stage, boats, and wheel-carriages that set out every other day. The journey from Charleston to Philadelphia may likewise be facilitated by boats running up Chesapeake Bay three hundred miles. But if the whole journey be performed on horseback, the most distant members, viz., the two from New Hampshire and from South Carolina, may probably render themselves at Philadelphia in fifteen or twenty days; the majority may be there in much less time."[1]

Transferring.[2] Barter played a very important part in both domestic and foreign trade throughout the period. Virginia had almost no money but tobacco for nearly a century. Other colonies had comparatively little metallic money, and what they did have was usually picked up from all the nations with which they had any intercourse. Massachusetts had a mint of her own for thirty years in the seventeenth century. Beaver, wool, and wampum were for a time commonly used as currency in the New Netherlands and Rhode Island. The forms of money current in one colony were discounted in another. Financial chaos prevailed throughout the colonies. "The modern fluidity of buying and selling, the movement through quick prices and in ready money was wanting in large as well as small transactions. Merchandise was present in negotiation, not only symbolized as in a money or currency, but in actual bulk and weight. Men bartered peltry, wampum or corn in terms of money. Taxes were levied, not in solid coin or its paper represent-

[1]The Old South Leaflets, No. 9, pp. 4, 5—Directors of the Old South Work, Boston.

[2]See Weeden, index; also Bruce.

atives, but in farm produce, 'country pay.' . . . One of the pinching wants of the time was not only for quicker capital and more money, but for a better currency of that which they had."[1]

Bills of exchange were very common, especially in Virginia. A merchant, in buying a cargo of tobacco from a planter, gave him in pay an order on another merchant in England. The planter then sent this order to the English merchant authorizing him to send to Virginia its value in various commodities.

In spite, therefore, of all inconveniences arising from the scarcity of money, its great variety and uncertain values; in spite of petty regulations of all sorts; in spite of adverse legislation respecting manufacture and transportation; and in spite of the universal prevalence of the mercantilist theory regarding trade; there grew up in the colonies a remarkably shrewd and enterprising body of intercolonial and foreign traders, who were ready, whenever the political conditions should become favorable, to push the trade of the colonies and of the United States into all ports that offered a market for their products or that produced goods which they desired to import.

The number of ships from a single colony engaged in the cod-fisheries, and the number of ships built in all the colonies in a single year, will give some suggestion of the activity of this later colonial trade. From Massachusetts alone, "from 1765 to 1775 there were sent out 665 vessels annually, 25,630 tons, with 4,405 men. They furnished for Europe 178,800 quintals at 3.5 dollars; for the West Indies, 172,500 quintals at 2.6 dollars."[2] In ship-building, "The account for all the colonies for the year 1769, the only year for which a summary is found, at least just prior to the Revolution, shows that 389 vessels had been built, having an aggregate of 20,000 tons burden. Of these New Hampshire built 45; Massachusetts, 137; Rhode Island, 39; Connecticut, 50; New York, 19; the Jerseys, 4; Pennsylvania, 22; Maryland, 20; Virginia, 27;

[1] Weeden, vol. I, pp. 314, 315.

[2] The same, vol. II, p. 832.

North Carolina, 12; South Carolina, 12; Georgia, 2. The whole number of vessels built in all the colonies in the year 1772 was 182."[1]

Servants.[2] The personal and domestic servants were of two main classes, slaves and indentured servants. The last class consisted of persons who could not pay their fare to the colonies, of English criminals, and of colonial orphans, debtors, and criminals. All these were bound to service, some voluntarily in return for transportation and maintenance, and others by compulsion, for a longer or shorter term of years. The usual term was from three to six years, although occasionally for life. With the exception of those indented for life, these servants were not slaves, and usually, upon the expiration of their term, became substantial citizens and property holders. The proportion of criminals was small. Most of those who came voluntarily were persons who, owing to the Elizabethan Statutes of Apprentices, to the assessment of low wages by justices of the peace, and to their inability to seek work in other parishes unless they could guarantee that they would not become public charges, were unable to support themselves in England, and had no means to pay their way to America. "In 1671 there were six thousand servants and two thousand slaves" in Virginia. During the eighteenth century, the importance of this class of servants declined. In recent years the Italian Padrone System and the Six Companies for importation of Chinese laborers are perversions of this old system of labor.

The history of negro slavery in America is too familiar to be mentioned further here than to state that, in 1790, there were already 697,897 slaves in the United States. Of these only 40,370 were scattered over New York, Pennsylvania, New Jersey, and the New England States.

Of other forms of service little can here be said. Life was simple. Music, art, the drama, and literature took the time of

[1] Wright, pp. 41, 42.

[2] Consult Bruce, ch. ix; also Weeden, index.

a very small proportion of the population, even in the largest towns, at the close of the period. The physician rode on horseback, carrying his own medicines in his saddlebags, to townsman and remote farmer alike. In New England, the minister was the social and intellectual leader. In education, Harvard, Yale, and William and Mary College in Virginia, were pioneers. The public school system of the United States was already begun in Massachusetts in 1647, when each town of fifty householders was ordered by law to support a school in which reading and writing should be taught, and towns of one hundred householders must set up a grammar school which should fit young men for the university.

Of the political services that were rendered during this period the mere mention of Samuel Adams, Patrick Henry, Washington, the Continental Congresses, Articles of Confederation, and the Constitution must suffice as a reminder.

Dependents. Emerson has told us that America and opportunity are synonymous. It has always been so regarded. The great abundance of cheap land, the slavery and indentured servant system, and the sterling character of the colonists prevented most persons from becoming economic burdens upon the public, either as paupers or as wilful parasites. Of the poor in New England, Mr. Weeden says: "The few paupers existing under the favorable conditions of life in our towns were made comfortable and supported carefully at the public expense."[1] The problem of the poor had not yet become a national question, nor even a state or colonial question in America.

Landlords. The systems of landholding in different colonies varied in detail, but everywhere traces of English ideas, modified somewhat to suit the new conditions, appeared. Examples of this importation of English methods of landholding are found in the feudal theory that all land titles had their source in the Crown; in the common New England practice of having homesteads in severalty and at the

[1] Vol. II, p. 696.

same time commonage, or associated possession of tillage, pasture, and woodlands; and in the manors of New York, New Jersey, Delaware, and other colonies. In spite, however, of this persistence of Old World ideas, the personal freedom of the colonists and the fact of the superabundance of unoccupied land made it remarkably easy, in comparison with England, for most men in the colonies to be their own landlords. The fact of the existence from the first of an unusually large percentage of free landowners in this country can not be held in mind too constantly.

Capitalists. Capital, both in the form of tools and machinery and of loan funds, was limited throughout the period. Still, there was capitalistic production of all sorts, agriculture, mining, fishing, manufacture, transportation, and trade. The amount of capital necessary for any venture was comparatively small, and the hope of one day taking part in production as a capitalist as well as a laborer was in the heart of every young man. Much of the colonization itself was in the nature of English investment of capital as well as of labor, and, throughout the period, Englishmen had more or less interest in many a colonial ship and trading venture.

As for loan funds, the accounts of the efforts of the various colonies to do a banking business founded upon land values, commodities, and with fiat money, would be instructive reading to many American voters of to-day.[1]

Undertakers. The Yankee trader, in debt to an Englishman for the capital with which he bought his ship and rigging, to New England producers for his cargo, and plying between Boston and England with the expectation of gradually paying his debts in both places out of the profits of his business is a good type of the enterprise of the small manager of the time, whether operating with his own capital or that of others. He shrewdly smuggled desirable goods in violation of English and colonial laws, braved the perils of the sea in vessels smaller than our pleasure yachts, ran great risks

[1]Weeden, chs. viii and xiii.

of capture by pirates, and mastered the difficulties of trade by barter and by variable and insufficient currency. The qualities thus developed were the resourceful and frequently unscrupulous qualities of the typical industrial manager. When the larger opportunities which came with greater capital and steam manufacture and transportation were offered to such men, their development into the great captains of industry of to-day was certain.

Laborers. With the exceptions noted in the section on "Servants," common laborers were free men. And it must be remembered that the large class of indentured servants were as a rule only temporary exceptions, if exceptions at all. Indeed, those who entered this condition voluntarily may perhaps best be regarded as wage-earners who were working a long time for a comparatively small wage paid them in transportation and maintenance.

Especially in the north, continual efforts were at first made by colonial legislatures and town authorities to fix wages[1] and then, when this failed, to regulate them by administration. Wages also were often paid in commodities. This continual interference with wages, coupled with the fact that a man could often get more commodities in a year by devoting himself to agriculture than by plying his trade, discouraged manufacture and kept the number of skilled artisans small. The fisheries present many interesting examples of coöperation, as those who fitted out and manned a ship usually agreed upon certain shares of the catch as their reward. In the skilled occupations, apprenticeship prevailed. On the whole, wage-earners shared in the rude comfort of the period in spite of all attempts to restrict and regulate wages.

Society: The Right of Private Property and Freedom of Contract. Of course slaves owned no property and were themselves merely chattels of others. Free men owned all kinds of property that were then in existence, subject only to the manifold interferences of society through the agency of colonial and English

[1]See Weeden, index; also Bruce.

customs, legislation, and administration. In the case of land, we have already seen that full ownership was practically enjoyed. In Virginia, tracts of twenty thousand and thirty thousand acres were sometimes in the possession of one man. We have also seen that in New England, in addition to private ownership of land, there was also in most towns social ownership of tillage, pasture, and woodland. Both private and social land was often used and cultivated in accordance with many regulations supposedly demanded by the social welfare. The size of breeding horses, the varieties of farm products, and the number of animals each man could pasture upon the common lands, were considered proper subjects for the consideration and action of town authorities.

In regard to property other than land, the regulations of society by means of English laws have already been mentioned. In addition, there was nothing a man possessed that was not at some time in some colony interfered with by society through the public authorities. The size and style of houses, materials and style of clothing, varieties of food, markets, prices, and wages, were all public matters. Even a man's amusements, private conduct, and religious beliefs, were not free from municipal interference. In short, private property in everything was allowed, and contract was supposed to regulate the relations of man to man, but both private property and contract were to be exercised only within the limits supposed to be set by the social welfare.[1] Perhaps the spirit of these regulations and the extent to which they went may be fairly well suggested by the following extracts from the Non-Importation Agreement of 1774, signed by fifty delegates from all the colonies but Georgia, and afterward ratified by the Colonial Legislatures: "We will use our utmost endeavors to improve the breed of sheep, and to increase their number to the greatest extent; and to that end we will kill them as sparingly as may be, especially those of the most profitable kind; nor will we export any to the West Indies or else-

[1]Weeden, index under "Laws."

where; and those of us who are or may become overstocked with, or can conveniently spare, any sheep, will dispose of them to our neighbors, especially to the poorer sort, upon moderate terms.

"Eighth. That we will, in our several stations, encourage frugality, economy, and industry; and promote agriculture, arts, and the manufactures of this country, especially that of wool; and will discountenance and discourage every species of extravagance and dissipation, especially all horse-racing, and all kinds of gaming, cock-fighting, exhibitions of plays, shows, and other expensive diversions and entertainments; and on the death of any relation or friend, none of us, or any of our families, will go into any further mourning dress than a black crape or ribbon on the arm or hat for gentlemen, and a black ribbon and neck lace for ladies, and we will discountenance the giving of gloves and scarfs at funerals.

"Ninth. That such as are venders of goods or merchandise will not take advantage of the scarcity of goods that may be occasioned by this association, but will sell the same at the rates we have been respectively accustomed to do, for twelve months last past. And if any vender of goods or merchandises shall sell any such goods on higher terms, or shall in any manner, or by any device whatsoever, violate or depart from this Agreement, no person ought, nor will any of us, deal with any such person, or his or her factor or agent, at any time thereafter for any commodity whatever." The Agreement then went on to provide for the choice of a "Committee in every County, City, and Town," whose duty it was to enforce the regulations so far as possible. The names of all those who broke it were to be published and "universally contemned as the enemies of American liberty."[1]

Suggestive Questions. 1. In what respects was the industry of America, during the Domestic Period, like the industry of England? Give reasons.

[1] Hinsdale, p. 447.

2. In what respects was it different? Why?

3. Show how English laws respecting American manufacture and trade helped to bring on the war for independence.

4. Show how the framing and adoption of our Constitution were due partly to the fact that the colonists found great difficulty in carrying on their trade under the Articles of Confederation.

5. Give any account you may have seen of the English manor as reproduced in America.

6. Describe any colonial attempts to own land in common about which you have read.

7. Why were they given up?

8. Reread the questions at the beginning of Chapter I, Part II.

9. Search all your school histories of the United States for answers to some of the above questions; also for what they say about home life, products, tools, methods, routes of travel, amusements, etc., and of men and women of colonial times in America.

10. Show that the luxuries of one period are often the necessities of another.

Chapter IV

THE PERIOD OF THE FACTORY SYSTEM OF INDUSTRY IN ENGLAND AND THE UNITED STATES

Introductory Questions.

1. What accounts of the lives of great inventors have you read? Show whether their inventions were wholly new or merely improvements in some machine or process that had not yet been successful.[1]

2. Describe any case that you know where machines have, on a large scale, taken the place of men and women. What work, if any, are those men and women now doing?[2]

3. Has the product become any cheaper to the consumers? Why?

4. Give cases of persons who are mere machine tenders. What is the effect of their occupation upon them? Why?

5. What advantages are there to put with the disadvantages of minute division of labor?

6. Name some occupations in which machinery plays a very small part. Give reasons for the fact.

7. Are many persons employed in such occupations? Why?

8. Is the number in such occupations increasing or decreasing in comparison with total population?[3]

9. Give examples of liberties, conditions, limitations, and prohibitions, respecting private business enterprises which have been made by society as represented in its lawmaking bodies.[4]

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[1]Consult encyclopedias; also Parton, *Captains of Industry*—1889-1891, Houghton, Mifflin & Co., Boston; Smiles, *Industrial Biography; Ironworkers and Toolmakers*—1873, Harper Brothers, New York; and Smiles, *Men of Invention and Industry*—1885, Harper Brothers, New York.

[2]Davis, *Does Machinery Displace Labor?*—"The Forum," July, 1898; Potter, *Man and the Machine*—"North American Review," vol. 65, p. 385; Wright, *Do Labor-Saving Machines Deprive Men of Labor?*—"The Chautauquan," vol. 25.

[3]Harris, *Is There Work Enough for All?*

[4]Stimson, *Handbook to the Labor Law of the United States*—1896, Charles Scribner's Sons, New York.

10. Give examples of private business enterprises that are carried on in spite of the wishes of society as expressed in public opinion and in laws. Give reasons.

11. Describe the largest business enterprise of which you have direct personal knowledge.

a. How much land does it use?
b. How much capital does it use?
c. How many men and women are employed in it?
d. What kind of a man is at the head of it?
e. Why has the business become so large?
f. What laws are in its favor?
g. Why were they made?
h. Who made them?

12. Name some national public questions of recent years which directly affect private business enterprises.

13. Name some state public questions of a similar sort.

14. Name some local—town, city, or county—public questions of a like kind.

15. How are such questions settled in the United States?

16. Are they always settled right? Why?

17. How does the ratio of wage-workers to the total population now compare with the ratio of wage-workers to the total population one hundred years ago? Why?

18. Are the present methods of producing, sharing, and consuming utilities likely to change? Why?

19. Can you see signs of change now? If so, what signs?

20. Are such changes usually rapid? Why?

I. SUBSTITUTION OF MACHINES FOR TOOLS AND THE UTILIZATION OF STEAM AS A MOTIVE POWER [2]

Distinction Between a Tool and a Machine.

Karl Marx[1] has analyzed the differences between a tool and a machine, and has shown the profound significance to workingmen of the modern substitution of one for the other. A needle directed

[1] Marx, *Capital*, ch. xv—1886, The Humboldt Publishing Co., New York.

[2] The development of modern machinery and means of transpor-

by the hand of a sewing woman is a mere tool. When it moves up and down in the grasp of a mechanism which is itself subject to some motive power, human or otherwise, the needle has become part of a machine. In the second case, the needle is not directly subject to the operator but to the mechanism which determines the direction and the limits of its motion. It is still indirectly subject to the operator, who can say whether it shall move rapidly or slowly or not at all. The fundamental difference between a mere tool and a machine is that in the machine the tool has passed out of the direct control of the handicraftsman. How far removed the tools of the machine are from direct human control depends upon the complexity of the machine. In a great variety of modern machine industries, many of the workers have become machine tenders, almost as automatic as the mechanically directed tools themselves.

Besides tools, a machine also has a transmitting mechanism and a motor mechanism. On the basis of this analysis machines have long been used by civilized men. The simplest windmill for grinding grain has arms for catching the force of the wind, a shaft for transmitting this force, and a rotating stone to crush the grain.

The Development of Modern Machinery: Tools. Modern machines surpass early machines in the number, variety, speed, and precision of their tools. The spinning jenny and mule which wrought a revolution in cotton manufacture held a large num-

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tation is of so much significance in the development of the industries of the Factory Period that both the transforming and the transporting groups of occupations are here discussed before the extractive group. It will be observed, however, that in this long chapter, with its numerous sub-headings, the same method of grouping under the words "Extractors," "Transformers," "Transporters," etc., made familiar to us in Part I, and used thus far in Part II, is practically continued. The apparent complexity of topics will be somewhat simplified if this grouping is kept clearly in mind.

ber of spindles instead of the one of a hand spinning wheel. Hammers vary in weight from the hammers of pile drivers and trip hammers to those used by a dentist in filling teeth. A mowing machine and harvester have a score or so of stationary shear blades over which the same number of active blades move back and forth with great rapidity. The human hand can stamp the few letters of a man's name or the name of a post office upon envelopes at the rate of several hundred in an hour, by using a rubber stamp. The modern printing press can stamp the thousands of letters of an eight-page newspaper upon 72,000 sheets in an hour.[1]

The Development of Modern Machinery: The Transmitting Mechanism.

The reader needs only to appeal to his own experience and reading to accumulate evidence of the development of the transmitting mechanism of modern machinery. Many have seen the shafts, wheels, bands, and confusing variety of motion of some factory. All know of the building up of manufacturing towns like Lowell and Manchester by the transmission of the water power of a single river. Most have ridden upon cable or electric cars driven by the power transmitted for miles by cable or by electric wire. The press has exploited the fact of the utilization of the water power of Niagara to furnish heat, light, and motion, for the city of Buffalo. The storage battery is also an example of the transmission of power.

The Development of Modern Machinery: The Motive Power.

However completely the future development of electricity as a motive power may enable man to discard the relatively wasteful steam engine, the record of steam has already been a sufficiently brilliant one. Animal power was weak, the wind was inconstant, and water power existed only in the vicinity of rapid streams. When steam was harnessed, all three of these limitations to the development of motive power were ended. The power of steam was practically unlimited, it could be maintained continuously at will, and it could be generated at any place upon land or sea. Man

[1] Wright, *Industrial Evolution of the United States*, p. 333.

had found a motive power which could drive his most complex transmitting mechanism weighted with an infinite variety and number of tools. The titanic power of steam was at the service of any man, at any time, at any place, for any purpose.

II. DEVELOPMENT OF MANUFACTURES ACCOMPANYING THE GREAT INVENTIONS

"The Great Inventions" the Work of Many Men.

It is not the purpose of these pages to give in any detail the story of "the great inventions;" it is in a general way known to most people. The fact that seems especially worthy of emphasis, before we pass to a consideration of the effect of these inventions upon all kinds of productive processes, is that even these inventions were the work of many men. Neither the engine nor any spinning or weaving machine was perfected and adopted all at once. The first use of a steam engine in cotton mills was in 1785, but it was not until forty-five years afterward, in 1830, when the Liverpool and Manchester Railway was opened, that steam locomotion upon land became important. "No one of the inventions which were the greatest in their effect, the jenny, the water-frame, the mule, the power loom, was in the main attributable to the effort or ability of a single man; each represented in its successful shape the addition of many successive increments of discovery; in most cases the successful invention was the slightly superior survivor of many similar attempts. 'The present spinning machinery which we now use is supposed to be a compound of about eight hundred inventions. The present carding machinery is a compound of about sixty patents.' "[1]

One invention could not well be utilized until another was perfected. At one time weaving was ahead of spinning, and there was a great demand for yarn. Then spinning was so improved that the opposite was true. Then dyeing, bleaching, and finishing lagged behind. The attention of all those

[1]Hobson, pp. 57-60.

interested in the completed cloth was concentrated upon one partial process after another until invention had covered the whole group of processes and all were harmonized and made to supplement each other.

Increase in Manufacture of Textiles.

The following table of statistics[1] will show the slow progress of invention in cotton machinery, and also the enormous increase in cotton production after the inventions became harmonized. This increase is well indicated by the imports of cotton, for England produced no cotton at home:

Dates.	Cotton Imported, lbs.	Dates.	Inventions, etc.
1730	1,545,472	1730	Wyatt's roller-spinning (patented 1738).
		1738	Kay's fly-shuttle.
1741	1,645,031	1748	Paul's carding-machine (useless until improved by Lees, Arkwright, Wood, 1772-74).
1764	3,870,392	1764	Hargreave's spinning-jenny (patented 1770). For weft only.
		1764	Calico-printing introduced into Lancashire.
		1768	Arkwright perfects Wyatt's spinning-frame (patented 1769), liberating cotton from dependence upon linen warp.
1771 to 1775	4,764,589	1771	Arkwright's mill built at Cromford.
		1775	Arkwright takes patents for carding, drawing, roving, spinning.
		1779	Crompton's mule completed (combining jenny and water-frame, producing finer and more even yarn).
1781	5,198,775		
1785	18,400,384	1785	Cartwright's power-loom. Watt and Boulton's first engine for cotton-mills.
1792	34,907,497	1792	Whitney's saw-gin.
1813	51,000,000	1813	Horrock's dressing-machine.
1830	261,200,000	1830	The "Throstle" (almost exclusively used in England for spinning warp).
1832	287,000,000	1832	Roberts' self-acting mule perfected.
1841	489,900,000	1841	Bullough's improved power-loom. Ring spinning (largely used in U. S. A., recently introduced into Lancashire).

[1]Hobson, pp. 57-60.

The number of pounds of cotton worked up in 1887-1888 was 1,530,000,000, nearly four times as much as in 1841.[1]

[NOTE.—A curve for these figures may easily be plotted upon ruled note-paper, and will aid the mind to realize the enormous expansion in cotton manufacture.]

"From this schedule it is evident that the history of this trade may be divided with tolerable accuracy into four periods:

"1. The preparatory period of experimental inventions of Wyatt, Paul, etc., to the year 1770.

"2. 1770 to 1792 (circa), the age of the great mechanical inventions.

"3. 1792 to 1830, the application of steam power to manufacture and improvements of the great inventions.

"4. 1830 onward, the effect of steam locomotion upon the industry (1830, the opening of the Liverpool and Manchester railway)."[2]

The growth of this industry gives some indication of the importance to textile industries in general of the new motor power when coupled with complex and efficient machinery. A study of the table just given shows how slightly the amount of cotton manufacture was increased, even by the great inventions, until the new motive power of steam was applied in the last years of the eighteenth century. The introduction of steam engines was not general until after 1813, but after that the cotton importation shot up over five hundred per cent, in about fifteen years. The effect of the application of steam power to transportation after 1830 helped to produce another phenomenal increase. The statistics of increase in importations of wool show nearly the same irregularities of expansion, although woolen importations are not a correct index to the expansion of woolen manufacture, owing to the fact that England also produced wool.

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[1]Hobson, p. 80.

[2]The same, p. 60.

Increase in the Manufacture of Iron.

The relation of the new motive power to the iron industry presents a striking contrast to that which it sustains to the textile manufactures. Hobson points out that, while in the textile industries, especially cotton, invention of machinery preceded the utilization of steam as a motive power and was merely quickened and made effective by it, in the iron industry comparatively little improvement in processes and machinery took place until it was demanded by the existence of the new motive power. In 1788, the total production of iron in England is reported to have been only 61,300 tons; in 1806, 258,206 tons; in 1839, 1,377,790 tons; in 1895, 7,703,459 tons.[1]

"Iron has become a foundation upon which every machine industry alike is built. The metal manufactures, so small in the eighteenth century, attained an unprecedented growth and a paramount importance in the nineteenth. The application of machinery to the metal industries has led to an output of inventive genius not less remarkable in this century than the textile inventions of the eighteenth century."[2]

The names and deeds of Brindley, Smeaton, Maudsley, Nasmyth, Bessemer, Siemens, Martin, and others, must suffice to suggest the details of these inventions.

The Kinds of Manufacture Which Have Most Generally Been Given Up to Machinery.[3]

Not all transforming industries have suffered the tool of the hand worker to be taken from his fingers and put into the grasp of an automatic machine. The extent to which this can be done depends very much upon the demands of men and women as consumers.

Some important facts as to the industries which have already been taken possession of by machinery can be gathered by a class of students or by an individual. As a rule those industries will be found to be carried on by machinery which are characterized as follows:

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[1] Hobson, pp. 64, 65. Compare *The Statesman's Year-Book*, 1897.

[2] The same, p. 66.

[3] The same, pp. 68-71; also ch. xiv.

1. By a large product.
2. By a product of uniform quality and pattern.
3. By a product whose valuable properties are relatively permanent.

The most universal wants of mankind, for food, clothing, and shelter, furnish a primary demand for such articles. All the milling processes for grains; canning and packing processes for fruits, vegetables, and meats; the manifold processes of preparing the materials for clothing, including clothing for the head and feet; and the preparation of all common varieties of building materials and house furnishings, have been given over to machines.

On the other hand, goods that are demanded in small quantities, and goods that must suit the individual taste of esthetic consumers, are still largely confined to the personal skill of hand workers.

The machinery that makes commodities; together with the machinery of transportation, and the tools of hand workers and servants, both men of science and domestic servants; in short, tools and machinery of all kinds, form a secondary class of commodities which can easily be made by machinery. Such commodities, as a rule, are wanted in large quantities, of uniform quality and pattern; and their valuable properties are enduring. Machinery for making machines has therefore marvelously increased during the last half of this century.

"A general survey of the growth of new industrial methods in the textile and iron industries marks out three periods of abnormal activity in the evolution of modern industry. The first is 1780 to 1795, when the fruits of early inventions are ripened by the effective application of steam to the machine industries. The second is 1830 to 1845, when industry, reviving after the European strife, utilized more widely the new inventions, and expanded under the new stimulus of steam locomotion. The third is 1856 to 1866 (circa), when the construc-

tion of machinery by machinery became the settled rule of industry."[1]

The Effect of Modern Machine Production in Localizing Manufactures.

We have already called attention to the fact that the Domestic System of industry had resulted in a certain amount of concentration of special varieties of woolen manufacture in certain districts of England (see p. 91). The same tendency was manifest in the cotton, silk, and cutlery manufactures. Sometimes factories of fifty looms, and single employers having from one hundred to one hundred and fifty men, were found before the time of the great inventions.[2]

This tendency was immediately strengthened and at length made economically certain by the introduction of steam-driven machinery. The new machinery was expensive, and therefore could not be made to pay unless a large product was turned out by its aid. The distances over which the motive power of steam could be economically transmitted were not great, and, therefore, large factories crowded with machinery and workers became the rule. All the preliminary and supplementary processes connected with the manufacture of a great staple commodity like cotton, or wool, or iron, grew up in the immediate vicinity of the main process. A fuel supply was also another determining factor in placing the new manufactures. In response to the economic compulsion of these new conditions, the manufacturing industries of England were rapidly withdrawn from the rural communities and from the households and concentrated in the coal region of the north and west of England and in southern Wales.

"It is also curious to notice that each coal-field has its own particular manufacture closely associated with it. Thus the Yorkshire coal-field contains most of the towns where the woolen industry prevails, while its southern extension, which descends into Nottinghamshire, includes the cutlery and hardware district of Sheffield and the lace and hosiery of

[1]Hobson, p. 67.

[2]Gibbins, pp. 325, 326.

Nottingham. The Lancashire coal-field is almost entirely surrounded by towns engaged in the cotton trade; the Staffordshire fields are connected chiefly with pottery, and, on their southern limit, with hardware and machinery; the South Wales coal district is noted for its smelting and iron works."[1] These concentrations of manufacture built up factory towns black with smoke and humming with machinery. Population also shifted so much that, whereas in 1750 the greatest density of population in England was in the south-central and southwestern counties, it is now in the north-central and northwestern counties.

Introduction of the New Machinery into the United States.

During and after the War for Independence, Americans were straining every nerve to establish manufactures of all sorts so as to be economically, as well as politically, independent of England. The second act passed by Congress under the Constitution was one which laid a duty on imported goods "for the support of the Government, for the discharge of the debts of the United States, and for the encouragement and the protection of manufactures."

But the mechanical inventions which were so revolutionizing manufactures in England were guarded by the most stringent legislation and the most vigilant administration. All exportation of the machines themselves, of models and plans of the same, and all emigration of men who knew how to construct and use them, were strictly forbidden. "So the Americans were compelled either to smuggle or to invent their machinery, and it is simply a matter of history that both methods were practiced until most of the secrets of the manufacture of cotton goods were made available in this country."[2]

The stories told of artisans who aided in the establishment of modern machine industry in the United States are many and interesting, but we must confine ourselves to two.

[1] Gibbins, pp. 350, 352, 454; compare Hobson, ch. iv.

[2] Wright, *Industrial Evolution of the United States*, pp. 123 and following.

It is related that Samuel Slater brought to America an accurate remembrance of the details of certain cotton machinery, and made the first complete machines used in this country, in Pawtucket, Rhode Island, in 1790. He was led to this effort by seeing a notice in an American newspaper describing the efforts that were being made to establish such machinery, and mentioning the bounties that were offered to the man who should succeed.

But, even with the introduction of cotton-spinning machinery from England, and the invention in the United States of the cotton gin, without which the development of cotton manufacture must have been very slow, the United States still lacked the power loom. To Mr. Francis C. Lowell belongs much of the credit of introducing this. After a visit to England during which he learned as much as possible, he built a complete factory at Waltham, Massachusetts, in 1814. For the loom that was there set up, Mr. Lowell had neither plans nor models. Spinning was also carried on in the same factory.

"This factory erected at Waltham was the first in the world, so far as any record shows, in which all the processes involved in the manufacture of goods, from the raw material to the finished product, were carried on in one establishment by successive steps, mathematically considered, under one harmonious system. . . . Few changes have been made in the arrangement organized at the Waltham factory. So, while England furnished the foundation of the industrial structure known as the factory system of manufacture, America furnished the stone which completed the arch."[1]

The importation and invention of modern machinery for a great variety of other manufactures has also gone on throughout the century. We must, therefore, picture to ourselves a later but similar transition in the United States from the Home and Domestic Systems of manufacture to the Factory System, which has already been mentioned as having taken place in England.

[1]Wright, *Industrial Evolution of the United States*, p. 131.

Increase of Manufactures: Present Distribution. The estimated annual value of our manufactures in 1790 has already been given as $20,000,000, most of which went on in the homes of citizens. The total value of manufactured products for 1890, based on the reports of the Eleventh Census, is $9,372,437,283. This estimate includes the value of all raw materials in each process of manufacture. Furthermore, as the finished product of one transforming process often forms the raw material of a second, and the finished product of a second the raw material for a third, and so on, it will be seen at once that the total value of manufactures given above often duplicates and reduplicates the value of the original raw materials. This aggregate value of manufactures, therefore, should be lessened by these raw material values before the value added by mere transforming processes will appear. This can not be accurately done. The figures are, therefore, used as given, with this caution as to their meaning.

All of this manufacture was carried on outside of the homes of workers, in 355,415 establishments employing 4,712,622 persons. There is no estimate in 1890 of the value of manufacture which still goes on in the homes of the workers. As the population in 1790 was 3,929,214 persons, and in 1890 was 62,622,250, the population in 1890 was not sixteen times as numerous as it was a century earlier, while the value of manufactures in 1890 was more than 4,686 times greater than in 1790.

Massachusetts alone produced 25.62 per cent of the total textile manufacture of the United States in 1890; the New England States together, 50.64 per cent; and the New England and Middle States together, 89.37 per cent. An indication of the growing importance of the Southern States as a new center of cotton manufacture is found in the fact that, while from 1880 to 1890 the value of the textile manufactures of New England increased only 30.61 per cent, the value of the same product of the Southern States increased 143.99 per cent.

The iron and steel industries are chiefly concentrated in Pennsylvania, Ohio, Alabama, Illinois, and New York. Taking manufactures as a whole, the first five states in order, according to the value of their manufactures in 1890, were New York, Pennsylvania, Illinois, Massachusetts, and Ohio. These five had more than half the total number of manufacturing establishments and produced more than one-half of the total product of the United States in 1890. At this date the geographical center of the manufacturing industries of the country as a whole was within ten miles of Canton, Ohio.

III. DEVELOPMENT OF TRANSPORTATION FACILITIES

English Transportation Facilities Previous to 1830. The most important English canals included one from Worsley to Manchester, seven miles long; one from the river Trent to the Mersey, ninety-six miles long; also other canals connecting Hull with Liverpool, Liverpool with Bristol, and London with Oxford and other towns in the Midlands.[1] The improvement of turnpikes also went on, and, under the skilful direction of men like Telford and Macadam reached a high degree of perfection early in the nineteenth century. The transportation of passengers by coach became general, and as comfortable and rapid as the nature of this means of transportation permitted. A comparatively small number of persons ever traveled for pleasure. The canals continued to be the principal thoroughfares for internal transportation of heavy goods, especially coal.

The Growth of English Railway and Canal Transportation. "The first line which carried passengers and upon which locomotive steam engines were used was the Stockton and Darlington Railway (opened in 1825), while the first to strongly attract public attention and afford some real inkling of future possibilities was the Liverpool and Manchester line, opened in 1830."[2] By 1840 there were 800 miles of railway constructed in Great

[1]Gibbins, pp. 355, 356.

[2]Taylor, p. 358.

Britain. The following table shows the number of miles in operation at the end of each decade thereafter:

Year.	Miles.	Year.	Miles.	Year.	Miles.
1850	6,621	1870	15,537	1890	20,073
1860	10,433	1880	17,933	1895	21,174

Of this mileage in 1895, 14,651 miles were in England and Wales, 3,350 miles in Scotland, and 3,173 miles in Ireland."[1]

In 1888, there was also a total of 3,813 miles of canals in use in Great Britain. In 1894, this canal system was made vastly more effective by the completion of the Manchester Ship Canal, 26 feet deep, 120 feet in bottom width, and 35½ miles long. This canal brings the whole internal system of canals in the neighborhood of Manchester into direct connection with sea-going vessels.

Transportation in the United States Previous to 1830. Late in the eighteenth century, and during the first quarter of the nineteenth, the practice of building turnpike roads, constructed and maintained by tolls, became frequent in the United States. A national effort was also made to connect the states west of the Alleghany Mountains with the Atlantic States by a great government road, called the Cumberland Road. In 1806, Congress made its first appropriation for this road; and, during the next thirty years, in spite of the opposition of the strict-constructionist members of Congress, who did not believe Congress had power to support internal improvements, the Cumberland Road was extended from Washington through Cumberland and Wheeling, to the Mississippi River. After 1790, many canals were projected and a less number constructed. New York, Pennsylvania, Ohio, Indiana, Illinois, and Virginia were the most active in this construction. The Erie Canal, opened in 1825, and connecting the Hudson River with Lake Erie, has proved the most important of

[1] *The Statesman's Year-Book*, 1897, p. 90.

these canals. Most of the canals actually constructed did not prove of great importance after railways were introduced.

The Mississippi River and its tributaries, and the Great Lakes, were utilized from the very beginning, as means of communication west of the Alleghanies. As soon as steam was applied to boats, the use of steamboats was gradually introduced upon the waters of this great region, and helped materially towards its settlement and the marketing of its produce.

The Extension of Railroads in the United States.

In spite of all efforts that could be put forth, however, the general transportation of passengers and goods was slow and expensive business in the United States previous to the era of railways. The beginning of this era was practically the same in the United States as in England. The first road of importance carrying passengers and goods, was a part of the Baltimore & Ohio Railway, completed in 1830. According to Poor's *Manual of Railroads*,[1] the following table gives the number of miles of railway in operation at the end of each decade since that time:

Year.	Miles.	Year.	Miles.	Year.	Miles.
1830	23	1860	30,626	1890	166,698
1840	2,818	1870	52,922	1895	181,021
1850	9,021	1880	93,296		

Previous to 1850, practically all the railway west of the Atlantic States was about fifteen hundred miles. The table on the following page gives the distribution of railways at the end of each decade since 1850.[2]

These two tables suggest the rapidity with which the successive waves of railroad construction swept over the country from east to west, and, since 1860, from the Pacific eastward as well. How the character of these roads changed from short local enterprises, radiating from the principal Atlantic cities,

[1] 1896, p. xx.

[2] Poor, *Manual*, 1896, p. xxi.

until they have become the great transcontinental lines with which we are familiar, is a fascinating study in itself. Most of this consolidation has taken place since 1850.[1]

Groups of States.	1850.	1860.	1870.	1880.	1890.	1895.
New England...	2,507	3,660	4,494	5,977	6,831.90	7,224.65
Middle.....	3,105	6,353	10,577	15,181	20,103.72	21,704.73
Cent'l Northern	1,276	9,583	14,701	25,109	36,926.68	39,393.52
South Atlantic.	1,717	5,463	6,481	8,474	17,300.59	19,967.63
Gulf and Mississippi Valley..	416	3,727	5,106	6,995	13,342.66	14,442.13
South Western..	.....	1,162	4,625	14,085	32,887.95	34,912.04
North Western..	.....	655	5,004	12,347	27,294.36	29,465.06
Pacific	.....	23	1,934	5,128	12,009.64	13,911.16
United States...	9,021	30,626	52,922	93,296	166,697.50	181,020.92

[NOTE.—These statistics afford good material for diagrams.]

These consolidations and other changes in railway construction and management have so reduced freight rates that "the average charge for carrying one ton of freight one mile is now [1894] a little less than one cent. In the decade 1850-1860, it was three cents or more."[2] Before the era of railways, the rate of transportation of heavy freight, like coal and farm produce, by land, was practically prohibitive for long distances.

Recent Changes in the Facilities for Transportation by Water.

Previous to 1840, only a few oceanic passages by steamship had been made. During 1838, the Great Western and the Sirius made trips, one from Liverpool and one from Cork. The following table gives the total registered tonnage of British vessels for each decade since 1840.[3] From this table it will be seen that the substitution of steamships for sailing vessels did not go on very fast until after 1860. The substitution that has since

[1]Poor, 1894, pp. 1356 and following; also 1896, pp. 85 and following.

[2]Cooley, *The United States of America*, edited by N. S. Shaler, vol. II, p. 74—1894, D. Appleton & Co., New York.

[3]*The Statesman's Year-Book*, 1897, p. xxiv.

taken place will appear all the more significant when we remember that the carrying power of a steamship of the same tonnage as a sailing vessel is several times greater. Mr. Mulhall[1] puts this superiority of a steamship over a sailing vessel at four hundred per cent.

Years.	Registered Tonnage.		Years.	Registered Tonnage.	
	Sailing.	Steam.		Sailing.	Steam.
1840	2,680,334	87,928	1870	4,577,855	1,112,934
1850	3,396,659	168,474	1880	3,851,045	2,723,468
1860	4,204,360	454,327	1890	2,936,021	5,042,517

Until about 1860, American shipping was, in the main, successful in gaining a fair share of the ocean carrying trade. The total tonnage of our coasting fleet at that date was a little over two and one-half million tons, and the tonnage of vessels carrying on foreign trade was a little less than two and one-half million tons. Since 1860, and since iron and steel clad vessels, driven by steam, have been constructed, the United States has lost most of the ocean carrying business. In 1896, the registered tonnage of American vessels was as follows.

	Tons.
Sailing vessels (including canal boats and barges)	2,396,672
Steam vessels	2,307,208
Total	4,703,880
Total tonnage registered in foreign trade	829,833
Total tonnage in coasting trade, on Great Lakes and western rivers	3,874,047

These statistics, taken as a whole, and especially those for the British steam vessels, suggest a statement the truth of which few people realize. The present facilities for rapid oceanic transportation of persons and merchandise have practically all been developed within the last thirty or forty years.

[1]Mulhall, *Industries and Wealth of Nations*, p. 43—1896, Longmans, Green, & Co., New York.

The memory of persons hardly past the prime of life covers the whole period of intercontinental steam transportation.

The Significance of Modern Facilities for Transportation on Land and Sea.

We have already pictured the eighteenth century transportation in England as taking place mainly along the radii of circles having towns as their centers, with comparatively little traffic between one large town and another. This limitation upon land transportation has, until the nineteenth century, made it necessary for each local community having a radius of a few miles to produce for itself most of its staple goods. Almost all the industries necessary for the simple life of a people have, until recent years, been carried on within a comparatively short distance from the homes of consumers. Now almost any product, including fresh meat, can be consumed thousands of miles away from the place where it was produced. So far as transportation is concerned, the civilized world can now be supplied with products from those places where they can be produced most cheaply and of most satisfactory quality. As a consequence, the natural resources of the earth in soil, climate, mine, and forest can be utilized to-day as never before. For example, while it was once necessary for the men of New England, Pennsylvania, Kansas, Georgia, and Dakota to furnish their own clothing, fuel, beef and corn, building materials, and wheat, each from his own narrow territory, now cloth from New England looms, coal from the mines of Pennsylvania, beef and corn from the Kansas prairies, pine from the forests of Georgia, and wheat from the Red River valley of Dakota, are commonly used not only in all these states but all over the country. The old economic isolation of one region from another has given place to an era when East, North, South, and West are bound together by an intricate network of steel rails over which, in every direction, are constantly hurled ponderous freight-train projectiles loaded with the best products of each section to be distributed to all. Nor is this interchange of wealth and services confined to the parts of a single country. The newspapers are full of projects for the

combination of transcontinental lines of railway with transoceanic lines of steamships, so that the time required for one man's product to be laid at the doors of a consuming world may be yet further shortened, and side by side with this marvelous development in the means of transportation of goods and persons is also developing the still more wonderful facility of transmission of ideas; already by means of telephone, cable, modern telegraphy with wires, wireless telegraphy, the telautograph, etc., the whole civilized world quivers with the transferrence of thought like the nervous system of the human body.

In a word, electric thought transmission and steam transportation on land and sea are fast creating a division of labor, on a world scale, among places, and have already made the nineteenth century differ more from the eighteenth than the eighteenth differed from that of the pyramid builders of Egypt.

In this connection Mr. Mulhall makes an interesting computation. He states that the number of foot-tons of power now used in transportation is much greater than the number used in production. His figures are as follows.[1]

Years.	Millions of Foot-Tons Used Daily.	
	Production.	Distribution.
1840	73,700	50,300
1895	174,120	266,840

It is impossible that these figures should state the truth with minute accuracy, but there can be no doubt that they reveal a great truth. Hand in hand with this new facility to travel and to transport goods, goes the new facility for interchange of thought, so that the "commercialism" of the time is necessarily connected with a larger, many-sided thought and soul life. Something of all this marvelous possibility of touching the life of man in all parts of the world—of actual

[1] Mulhall, p. 20.

connection, through the exchange of services and of wealth, with all mankind—must have been deeply felt by Tennyson when he wrote:

"Better fifty years of Europe
Than a cycle of Cathay."

IV. DEVELOPMENT OF EXTRACTIVE INDUSTRIES

Enclosure of the Common Fields in England in the Eighteenth and Nineteenth Centuries.

In spite of all the enclosure that had taken place for the establishment of sheep-farms, and to allow of convertible husbandry, we have already seen that about one-third of the common fields remained unenclosed until the eighteenth century. These fields were still cultivated very much as they had been in the time of King William I. (1066-1087). But, upon the land which had been enclosed, convertible husbandry was tending toward improvements of many kinds in agriculture. Chief among these was a more or less scientific rotation of crops, including roots and clover. Drainage was also making its way. Accordingly, in the eighteenth century, the idea of improvement in agriculture slowly gained ground, so that the task of enclosing the remainder of the common fields was resumed to make way for better tillage.

Mr. Toynbee tells us [1] that, from 1710 to 1760, this movement was so slow that only 300,000 acres were enclosed, but that, from 1760 to 1843, nearly 7,000,000 acres were enclosed. These changes bore hard upon the small farmers, and greatly reduced the number of men, who, as freeholders, copyholders, and small tenants, had hitherto remained in vital contact with the soil. "Enclosures brought an extension of arable cultivation, and the tillage of inferior soils, and in small farms of forty to one hundred acres, where the land was exhausted by repeated corn crops, the farm buildings of clay and mud walls, and three-fourths of the estate often saturated with water, consolidation into farms of 100 to 500 acres meant rotation of crops, leases of nineteen years, and good farm

[1] pp. 88 and following.

buildings. The period was one of great agricultural advance; the breed of cattle was improved, rotation of crops was generally introduced, the steam-plough was invented, and agricultural societies were instituted."[1]

Decrease in Proportion of Agricultural Classes in England.

These changes in agricultural methods, the phenomenal rise of manufactures, the growing importance of the transporters, transferrers, and servants, together with the industrial development in the whole civilized world—both the purely economic development and this development as it was modified by the legislation of England and other countries—caused a decline in the agricultural classes when compared with the total population.

We have already given an estimate for 1688, which showed over eighty-nine per cent as engaged in agriculture. Remembering the comments already made upon these figures, and also bearing in mind that a greater amount of manufacture was then carried on in the homes of the farmers than at present, we may give still further estimates and census reports for comparison.

Arthur Young's estimate for 1769 was as follows:[2]

Agricultural classes	3,600,000
Manufacturing classes	3,000,000
Commerce	700,000
Professional classes	200,000
Paupers	600,000
Military and official classes	500,000
Total	8,600,000

[NOTE.—Compare diagram of these statistics of occupations with those previously made.]

This gives over forty-one per cent engaged in agriculture seven hundred years after the Domesday Survey. The decline in percentage of the total population engaged in agriculture continued during the first of the nineteenth century as follows:[3]

[1] Toynbee, p. 89.

[2] Hobson, pp. 21, 22.

[3] Toynbee, p. 88. Compare Gibbins, p. 446, and *The Statesman's Year-Book*, 1897, pp. 19, 20.

1811	35 per cent.
1821	33 per cent.
1831	28 per cent.

Later figures show periods, not only of relative, but of absolute, decline in the numbers of agricultural laborers in Great Britain. The census returns show that 70.4 per cent of the total population of England and Wales in 1891 lived in towns and cities of over 3,000 people. The same census gives only 12.1 per cent of all males over ten years old in England and Wales as engaged in agriculture and fishing.

These facts are of profound significance, as they suggest not only the modern tendency of population in civilized countries toward the towns and cities, but also something of the extent to which the workers of England have been withdrawn from direct production of a food supply.

Generalizations Respecting English Agriculture. The whole period since the Conquest, from the point of view of English agriculture, can be divided into three sub-periods:[1]

1. A period of universal open-field agriculture.

2. A period when the open-field system had been partially supplanted by sheep pasturing and convertible husbandry in enclosed fields.

3. A period when the open-field system has entirely disappeared, and the enclosed fields are wholly devoted to pasturage, convertible husbandry, and to the modern intensive agriculture, known as the rotation of crops.

In the last period only has scientific farming been at all common, or even possible. The gradual passage from the first of these systems to the last has been accompanied by a decrease in the ratio between the agricultural and total populations.

Agriculture in the United States. The natural fertility of much of the soil in the United States, combined with the ease with which men could acquire ownership of shares of the public land, has made the ratio of farmers to the total

[1] Ashley, vol. II, p. 262.

population very large in this country, and has tended to make the methods of tillage careless and wasteful. "Our extensive agriculture has converted a portion of the natural fertility of our soils into other kinds of wealth that were less abundant. In the older sections of the country, intensive cultivation has long been practiced. After the great staple crops of corn and wheat have been raised for successive years with the smallest expenditure of capital and labor, the soil becomes perceptibly impoverished; and the production of grain moves steadily westward toward unoccupied territory. Then, on the older lands of the East begins a more careful, intensive cultivation of smaller crops, vegetables, fruits or grass for the support of the dairy. On the better portion of these lands, cereal crops are still raised by higher cultivation, while the poorer soils are often allowed to revert to forest. In the vicinity of towns and cities, market-gardening allows a still more intensive application of labor and capital."[1]

In the very nature of the case, as population increases and new lands give out, intensive methods must gradually encroach upon the great grain fields and ranches of the country. Thus far, the great areas cultivated by our extensive agriculture have necessitated the use of more agricultural machinery than is used in any other land. Most of this has been invented and manufactured in the United States. When once perfected, small farmers also often reap the benefit of the use of such machinery by neighborhood ownership of drills, harvesters, etc. The total value of the farm product in 1889 was $2,460,107,454.

In comparison with England, the ratio of our agricultural population to the total is very large. Of the 22,735,661 men and women reported by the census of 1890 to be engaged in gainful occupations, 8,466,251, or over 37 per cent, were engaged in agriculture.

Although this per cent is still large, yet the tendency of urban population to increase faster than rural is as evident in

[1]Bullock, pp. 42, 43.

the United States as in England. The 3.35 per cent living in towns of 8,000 people and over, in 1790, did not increase to 10 per cent until after 1840. In 1890, the urban population in cities of the same size was 29.2 per cent of the total.

Mining in England. The motive power of steam began to revolutionize coal and iron mining in England during the last of the eighteenth century. Steam power was used to clear the mines of water, to sink shafts, to raise coal and ore from the mines, and to furnish blasts of air for the furnaces. When the new motive power was applied to land transportation by means of locomotives, the revolution was complete. In 1895, the production of coal and iron in the United Kingdom was as follows:[1]

Iron ore, 12,615,414 tons, which yielded 4,394,987 tons of metal.

Coal, 189,661,362 tons.

"The total number of persons employed in and about all mines in the United Kingdom, in 1895, was 733,657; of this number, 584,298 were employed underground."

Mining in the United States. Because of the stress of the task of appropriating a new continent, the mining interests of the United States, like the manufacturing interests, were developed comparatively late. With the exception of gold in the Carolinas and Georgia, of small quantities of various other minerals, and of comparatively small amounts of coal and iron, the mineral resources of the country were hardly touched in 1850. Since 1860, the development has been rapid. The census of 1890 gives a total of fifty-four mineral products, having a total value of $587,230,662, which were mined in 1889. In 1890, these mines required the labor of 387,246 persons, 208,549 of them being coal miners.

Fisheries and Lumbering. Of course, the lumber business of Great Britain is insignificant. In the United States, however, the total products of the forests for 1889 were valued at $446,034,761. Over $400,000,000 of this value

[1] *The Statesman's Year-Book*, pp. 72, 73.

represents products which had gone through various transforming processes of mill, lathe, etc. The number of men in 1890 directly occupied in chopping and getting out logs from the forests was 99,554.

The products of the fisheries for 1889, including oysters, were valued at $42,277,514. In 1890, there were 60,150 persons engaged in these industries.

In Great Britain, the value of fish, including shellfish, landed in 1896, was 7,435,199 pounds sterling. In 1894, the British fisheries employed 121,978 men.

V. TRANSFERRING INDUSTRIES: CHANGES IN EXTENT AND METHODS OF TRADE

The Growing Interdependence of Men and Nations. It has already been pointed out that, previous to the era of steam locomotion, nations themselves, and even local areas within nations, were, to a great degree, self-sufficing in respect to the great staple commodities which furnish men with food, clothing, and shelter. As occupations differentiated, more local trade took place, and as means for transportation, both of goods and of ideas, have become international, the humblest homes gather, from many latitudes and from many lands, the various products which are daily consumed.

The variety stores of country villages, where all sorts of commodities may be bought at any time, are a comparatively new economic institution in the world. Staple goods of an English community were exchanged in towns on market days, and goods not so exchanged were to be bought only at periodical fairs or in the largest towns, until toward the close of the eighteenth century. "Till the epoch of modern railways, in fact, fairs were a necessity, though now the rapidity of locomotion, and the facility with which goods can be ordered and dispatched, have annihilated their utility and rendered their relics a nuisance."[1]

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[1]Gibbins, p. 141.

"The trader did not exist in the villages. In most villages, he hardly existed at the beginning of the present [nineteenth] century. In my native village, the first shop was opened, for general trade, about sixty years ago, as I have heard, and for many years afterward, the wants of the villagers were supplied by packmen and pedlars, or, in the case of the more opulent, by carts, which came periodically from the nearest towns for orders."[1]

"In 1696, Massachusetts confined the marketing in Boston to Tuesdays, Thursdays, and Saturdays, at such places as a majority of the justices of the peace might define."[2] Bristol allowed marketing only on Thursdays, in 1693.

Faneuil Hall, erected in 1740, was the first daily and permanent market that Boston had. "New Hampshire appointed market and fair days in May and October, at Hampton Falls, in 1734."[3]

VI. SERVANTS

Specialization in this Group of Occupations.

The number of services performed by the medieval clergy has already been mentioned. Other illustrations of the lack of separation between different groups of occupations abound. Mr. Rogers says: "When the King dismisses his parliament, in the middle ages, he sends nobles to their sports, the commons to their harvests, and makes no distinction between knights of the shire and burgesses. So, we are told, the long vacation in the courts and the universities was extended from July to October, in order that such persons as followed the pursuits of law and letters might have ample leisure for the all-important work of the harvest."[4] Thus statesmanship, law, and education were closely connected with agriculture. Education and the

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[1]Rogers, p. 147.
[2]Weeden, vol. I, p. 406.
[3]The same, vol. II, pp. 524-526.
[4]Rogers, p. 122.

church, and the church and state are not yet distinct in England. In America also, with some religious denominations, education and the church go hand in hand. In general, however, it may truthfully be said, that the nineteenth century has seen more specialization of this whole group of occupations from other groups, and more specialization of class from class within the group than was ever known before.

In education, the rise of the public school system of the United States, from the kindergarten to the university, is developing specialists all along the line. A similar development is going on in England.

In municipal and national government, the civil service is coming to be composed of specialized and relatively permanent public servants. Democracy has made real progress in the nineteenth century.

The whole field of the physical sciences has been divided up between scores of groups of special scientists. The social sciences are now in process of a similar survey and partition. Medicine is remarkably specialized. Skilled personal services of all kinds can be obtained as never before. Music, books, and pictures, are bringing the inspiration of the most gifted servants of the century within the reach of all, as never before in the history of the world.

The ratio of those who produce services to those who produce wealth has increased during this period, and the economic significance of such production is becoming more frankly recognized than formerly. If accurate statistics were available to show precisely how many persons, in comparison with the total population, have, in successive centuries, been spared from immediate material production to produce personal, domestic, professional, educational, scientific, and artistic services, it would reveal much respecting the economic progress of America and England. The absolute number of servants of all sorts is now very large in England and the United States. In comparison with the early life of each country, the present abundance and variety of services are of

untold value in making human life more varied, free, and altogether enjoyable.[1]

Domestic service is not yet adjusted to the ideals of modern life.[2] Still, it should be pointed out, that the days of legal indentured servants and of slavery are past. Servants, like wage-earners in material production, are politically free. The problems of the economic freedom and social position of both are a part of the so-called labor question of to-day. To the correct solution of this question, the lives and activities, as well as the thoughts, of honest, earnest, and intelligent men and women, in all quarters, must be devoted. Young men and women who have not yet completed their prescribed courses of education will find the problem large enough to absorb much of their best life effort.

VII. PROBLEMS OF POVERTY AND PARASITISM

Suggestive Statistics. According to the census of 1890, there were, in that year, in the United States:

Penitentiary convicts	45,233
Prisoners in county jails	19,538
Inmates of juvenile reformatories	14,846
Almshouse paupers	73,045
Total	152,662

In addition to these classes, who are being supported at public expense for longer and shorter periods, there is the familiar tramp; and, in 1894, there were the "Commonweal Armies," led by Coxey, Randall, Browne, Kelly, and others, which numbered in all about 10,000 men. In all periods of depression, there are many men out of work in all parts of the country, who often suffer great destitution, in spite of the generous aid of their friends who have employment, and the irregular aid of the benevolent and of public authorities. "During the depression of 1882 to 1885, it is estimated that about 1,000,000 men were idle; during the

[1] Harris, *Is There Work Enough for All?*

[2] Addams, *A Belated Industry*—"The American Journal of Sociology," March, 1896, The University of Chicago Press.

recent depression, following the crisis of 1893, the trade union estimates put the number at about 4,500,000; more conservative estimates, at about 1,000,000. Returns made to Bradstreet's, the results of which were published December 23, 1893, show that in 119 cities, 801,055 men, with about 1,956,110 persons dependent upon them, were out of employment."[1]

In England and Wales, in 1895, the number of paupers, exclusive of vagrants and casual poor, in receipt of official relief, was 817,431 persons. The amount of relief given them was 9,866,605 pounds sterling.[2]

"In 1881, no less than one in ten of the total recorded deaths took place in workhouses, public hospitals, and lunatic asylums. In London, the proportion is much greater. In 1888, out of 79,000 deaths in London, 10,170 took place in workhouses, 7,113 in public hospitals, and 380 in public asylums, making a total of 17,662, or more than one-fifth the whole number. Since comparatively few children die in these institutions, it seems probable that, in the richest city in the world, one in every four adults dies dependent upon public charity."[3]

Efforts to Deal with the Problem. The above bare statements of fact are enough to show that the problem of the poor and of the unemployed has grown enormously in the United States since colonial days, and they are enough to show, also, that, whatever efforts have been put forth in Great Britain, during the reign of Elizabeth and since, the English problem still remains unsolved. Poverty notably increased during the latter part of the eighteenth century, various changes in the poor-laws were made, and the greatest abuses grew up. Chief of these was a system of allowances, in accordance with which assist-

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[1]Warner, *American Charities, A Study in Philanthropy and Economics*—1894, T. Y. Crowell & Co., New York.

[2]*The Statesman's Year-Book*, p. 41.

[3]Hobson, *Problems of Poverty*, p. 19 — 1891, Methuen & Co., London.

ance was given to families in proportion to the number of children. Low wages were often given by employers, purposely, in order that the deficiency might be made up by contributions from the poor-rates, which were collected from employers and non-employers alike. "The farmers, being the chief employers of labor, welcomed the system, for they either diminished wages to the minimum allowance of the justices, with the knowledge that it would be made up to their laborers from the rates; or they dismissed their own men in favor of the paupers, who, in accordance with arrangements in vogue in many places, the parish compelled them to employ, or, at any rate, to support. And thus, while the honest laborer was driven out of work, or, at best, had to accept in the minimum wage a less sum than was paid to the rate-aided pauper, marriages were recklessly made, the pauper going, as it has been said, straight from the church to the overseer, and every encouragement was given, not only to incontinence, but to immorality of the most flagrant kind."[1] This system continued from 1795 to 1834, from which time until the present numerous reforms have been introduced. Not only was the system previous to 1834 bad in the particulars suggested, but it was chaotic in administration. "The rates were administered by 2,000 justices, 15,000 sets of overseers, and 15,000 vestries, acting always independently of each other, and very commonly in opposition, quite uncontrolled and ignorant of the very rudiments of political economy."[2]

The reforms since 1834 have been directed especially toward the removal of abuses such as have been suggested, and toward an organization for administration that should combine greater local responsibility with greater national unity. This organization consists of a local government board, the chairman of which is a cabinet officer, 648 poor-law unions, in England

[1]Medley, pp. 370, 371; compare pp. 361-374.

[2]Fowle, *The Poor Law*, pp. 73, 74, also pp. 89-92—1890, The Macmillan Co., New York.

and Wales, each including one or more parishes, and each having an elective board of guardians, and overseers for each parish.

In the United States, the unit of legislation, for the purpose of poor relief, is the State. "In each commonwealth, the fabric of the public charitable institutions rests upon the quicksands of the poor-law, which few study and probably none understand. It was said of the English poor-law, by the commission appointed to investigate its workings, that there was scarcely one statute connected with the administration of poor-relief which had produced the effect designed by the legislature, and that the majority of them had created new evils and aggravated those which they were intended to prevent. The same is substantially true in many of our own States, and especially in the older commonwealths, such as New York and Pennsylvania, where the legislatures have not been careful to repeal existing legislation when enacting new laws. The result is a tangle of statutes, which cannot be rationally interpreted, because they have no rational basis. The courts construe them from time to time, because they must, and not because they know how. The fact that, after years of giving outdoor relief in Brooklyn, the whole system was decided to be illegal, shows the unsubstantial nature of the foundation upon which our system of poor-relief sometimes rests."[1]

Not only are charities chaotically administered under State laws, but the benevolent work of churches and various voluntary associations, having too little unity of action, and the indiscriminate giving of individuals, often add to the tangle.

The chief signs of future improvement in this branch of social administration, as discerned by Mr. Warner, are as follows:[2]

1. The burden of relief is so heavy that "we must become

[1] Warner, p. 311.

[2] The same, pp. 394-407.

wiser or be crushed." About one hundred millions of dollars annually are needed for charity.

2. Large numbers of the influential classes are recognizing the fact that they are more or less responsible for understanding all the social conditions and institutions which cause existing evils, and for doing all in their power to apply remedies.

3. There is a greater tendency to use scientific methods in charitable work.

4. New books are helping to clear up the general subject, and the most progressive colleges and universities are offering courses in "philanthropology."

5. The administration of charities is becoming a profession.

6. Local and national conferences are regularly held "for the comparative study of charities, and the more extended application of whatever methods have been found best."

When the words "dependent" and "parasite" are used, some persons think only of the worthy and unworthy poor, but others think also of another class. The charge of economic parasitism is often indiscriminately applied to those who collect rent and interest. "In that section of our nation which speaks of itself as 'society,' being, indeed, a society separated by economic parasitism from the common mass, we find that the characteristic activity is the provision of agreeable and exciting methods of passing time."[1] This may be too sweeping, but, in view of the fact of its partial truth, in view of the fact of the boundless opportunities for social study, open to all, and in view of the appalling facts of human need, the mere reading of the above quotation may well suggest to each young man and young woman the question: To what extent am I, through my personal effort, as distinct from my property, producing utility in the form of services and wealth, in return for the utilities I consume?

[1] *Fabian Essays*, p. 107—1894, Charles E. Brown & Co., Boston.

VIII. LANDLORDS

Landholding in the United States Under the Constitution.

After the Revolution, the Atlantic States ceded their territory west of the Alleghany Mountains to the United States, and thus was originated the public domain. By purchase, by conquest, and by treaty, the public lands have been added to, from the time of the Louisiana purchase until the purchase of Alaska. "By the Ordinance of 1787, absolute ownership of land was guaranteed. There was to be no more primogeniture nor entail on the public domain."[1]

"The General Land Office, charged with the care and custody of the public lands, under the supervision of the Secretary of the Interior, is one of the most important and responsible public divisions in the administrative circles of the Government. The survey, sale, or other disposition of the nation's public lands, is within its control. . . . Its jurisdiction reaches from Lake Erie to the Pacific Ocean, and from Canada to the Gulf of Mexico. Four-fifths of the lands of the entire area of the United States have been, or are now, under its supervision."[2] By sale at prices from $1.25 to $2.50 per acre, by homestead and tree claims, and by bounties to soldiers and sailors, vast areas of this public land have come into the possession of resident owners. Railroads, other corporations, and schools and colleges have also secured enormous areas. Fraud and failure to fulfill contracts have been frequent both on the part of private persons and corporations. Exclusive of Indian, timber, and military reservations, about 600,000,000 acres of public land remained in 1896. Most of this is too dry, too rugged, too swampy, or in some other way unfit at present, for agricultural purposes. Most of the lands of Alaska, also, yet remain under Government control.

The extent to which private persons own land in the United States is partially suggested by the following statements of fact based on the census of 1890:

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[1] Sato, pp. 17, 18.

[2] The same, p. 127. Compare Donaldson, pp. 1222, 1223.

Families occupying encumbered farms of their own	886,957
Families occupying unencumbered farms of their own	2,255,789
Total families occupying their own farms	3,142,746
Families occupying hired farms	1,624,433
Total families occupying farms	4,767,179

The percentage of farm homes and other homes owned and rented in 1890 were as follows:[1]

	Percentages	
	Owned.	Rented.
Homes in cities above 100,000	22.83	77.17
Homes in cities from 8,000 to 100,000	35.96	64.04
Homes outside such cities (but not farms)	43.78	56.22
Farms	65.92	34.08
Average	47.80	52.20

So far as economic independence is secured by ownership of land, therefore, this is least common in the largest cities and most common upon the farms. It should also be pointed out that the land ownership in cities here described does not give the owners much opportunity for productive effort at home, in comparison with the ownership of farms. The tendency of population toward the cities in the United States, therefore, means at least this—an increasing dependency of the population as a whole upon others than themselves for access to the land, both for the purpose of having a spot on which to dwell, and for opportunity to take part in production. The time has long since gone past, in the United States, as well as in England, when the majority of men enjoy private ownership of land even for a home.

Landholding in England During the Period of the Factory System.

Facts have already been given to show that both the proportionate and absolute numbers of persons engaged in agriculture in Great Britain have known periods of decline within the last century. It has also been stated that the small freeholders and tenants of various kinds were greatly reduced in number.

[1] Spahr, p. 53.

This decrease seems to have been going on, with greater or less rapidity, ever since the enclosures which followed the Black Death began. Since 1688, and especially since the close of the eighteenth century and during the first of the nineteenth, the process went on even faster. During this period, rich merchants and manufacturers bought up the lands of small farmers, who were forced to sell because of enclosure, since they could not afford the outlay necessary to farm by the improved methods that were being adopted, and for other reasons that can not here be explained. The excessive poor-rates at the beginning of the nineteenth century, which, we have seen, bore more heavily upon the small farmer, who employed little labor, than upon the large farmer, who employed much, also taxed many small farmers out of existence as farmers, and transformed them into dependent wage-earners. "The finishing stroke to a rapidly decaying class was given by the fall in prices after the great Continental War (1815), following on the inflation of previous years; and as their small properties came into the market, and no holders of their own class appeared to take their place, their lands went to swell the large farms that were now the typical feature of British agriculture. Here and there, an occasional representative of a once large and worthy body of men still remains (1895), but the English yeoman of the days of Henry V. (1413-1422), and Queen Elizabeth (1558-1603), as a class, has disappeared entirely."[1]

"In 1876, the number of owners of less than an acre of land in the United Kingdom (Great Britain and Ireland), exclusive of the metropolis, was officially returned at 852,408; of owners of more than an acre, at 321,386; total number of owners, 1,173,794."[2] As the total population of the United Kingdom, exclusive of London, was at the same time, in round numbers, 28,000,000, the ratio of owners to the total population outside of London was about 1 to 24, and ratio of owners of more than an acre of land to the total population

[1] Gibbins, p. 279. Compare pp. 276-283.

[2] *The Statesman's Year-Book*, 1897, p. 66.

was about 1 to 87. To put these facts in another way, the total area of the United Kingdom is 120,677 square miles, 77,233,280 acres. Subtracting from this acreage 5,500,000 acres of waste and common land, the area of London, and the acreage of those owning less than one acre each, there is left over 70,000,000 acres owned by 321,386 persons, 217 acres each. Total population in the United Kingdom, outside of London, in 1876 was 28,000,000 (an estimate too low rather than too high).

Owners of less than 1 acre each.....	852,408
Owners of an average of 217 acres each.....	321,386
Total number of owners of land.....	1,173,794
Total number not owning land.....	26,826,206

These figures suggest something of the dependence in recent years of the great majority of the population in Great Britain and Ireland upon a few land owners, both for a dwelling place and for an opportunity to carry on any kind of production. It is only fair to state in this connection, however, that, while individual ownership of land is rare, the problem of securing admission to the land for larger numbers of people is attracting the attention of statesmen and of many social students. As a result of efforts already made, coöperation in farming is being tried, and an increasing number of persons is securing the rental of small allotments of land. In 1885, the number of holdings in Great Britain of less than 50 acres was 392,203. "A Report of the Board of Agriculture for 1890 shows that this number had risen in 1889 to 409,422, and that, at the same time, there were 455,005 ordinary detached allotments under an acre, in addition to 262,614 cottage gardens of an eighth of an acre and upwards; and these, together with 'potato-grounds,' and cow runs, bring up the total number of instances of *petite culture* in Great Britain to 1,300,746."[1] It is complained that the rent of these allotments is too high.

[1]Marshall, *Principles of Economics*, vol. I, p. 699—2d. ed., 1893, The Macmillan Co., New York.

Taken altogether, the facts given show at least this much, that in modern England, unlike the custom in old feudal days, there is no general customary access to portions of English soil for the great mass of Englishmen, either as partial owners or as tenants. A would-be owner or tenant must now enter the lists with all others like himself, and, on the basis of a new contract, bargain with the present owner for what he wants. If the conditions of the bargain are such that he can fulfill them, he secures access to the soil; if not, he must remain a landless man.

IX. MODERN CAPITALISM

Coöperation of Labor and Capital in Business.

Mr. Hobson[1] points out that five things should be considered in a study of the coöperation of capital and labor in a transforming process: "(1) The ownership of the material; (2) the ownership of the tools; (3) the ownership of the productive power; (4) the relations subsisting between the individual units of labor; (5) the work-place." Under the Family System, the materials and tools were owned by the head of each family; the productive power was the physical strength of the man and his family; their relations to each other were those of blood; and the work-place was their own house.

Under the Gild System, the material was sometimes owned by the master workman, and sometimes by the consumer; the tools usually belonged to the workmen; the workmen still furnished their own productive power; the relations between the workers were those of apprentice, journeyman, and master workman, who were usually neighbors and socially one about as good as another; and the work-place was the laborer's home, the home of the master workman, or the home of the consumer who was having the work done.

Under the Domestic System, the tools usually belonged to the workman, but sometimes to the master workman, or to their common employer; the material was owned by the

[1] *The Evolution of Modern Capitalism*, p. 35.

capitalistic employer; the motive power was still largely that of the workers; the relations between workers were still chiefly those of social equals, although the employer might be far removed from the workers, and the workers who performed one partial process might be unknown to those who performed another partial process; the work-place was most commonly the home of the workers, or the home or small shop of the master workman.

Under the Factory System, materials, tools, productive power, and work-place have passed completely out from the ownership and control of the wage-workers. The relations subsisting between the individual units of ordinary labor are too much those of different parts of a great productive mechanism, brought together from whatever homes they occupy, to go through, day after day, the same more or less automatic motions. As for the interest of those who own the land required for the manufactory, of those who furnish the expensive plant in buildings and machinery, of those whose genius fuses all into a product desired by consumers,—the interest of all these in the human beings who form a part of the productive mechanism has a decided tendency to become the same as their interest in the rest of the establishment—simply that interest which leads them to try to get out of their investment the largest possible returns. That this tendency does not always work itself out to the naked conclusion suggested is no fault of the system itself.

Capital in Extractive, Transporting, and Transferring Industries.

The phrase, "Factory System of industry," is primarily applicable to manufacture, but lumbering, mining, extensive agriculture in its highest development, transportation, and trade, present nearly the same characteristics, in regard to the five points previously mentioned, at the present time as do the manufactures. With respect to capital, agriculture, as on the great wheat farms of Dakota, lumbering, as in Michigan and Oregon, and mining for coal, iron, copper, gold, and silver, require a great outlay for valuable land, forests, and mines,

for farming machinery, sawmills, and machinery for sinking shafts, raising coal and ore, and reducing the same; transportation companies require an enormous outlay for right of way and roadbed, for locomotives, cars, machine shops, offices, freight houses, stations, steamboats, elevators, wharfs, etc.; and the great transferring companies must have expensive sites in the very centers of human activity, immense buildings, fortunes in stocks of goods, and a whole subsidiary transportation equipment in the form of truck wagons, special cars, delivery wagons, etc.

There is also connected with each of these great businesses, as a rule, a large number of persons who work away from their homes, have no property right in the plant, material, or product, and whose relations to their employers are largely impersonal, unsocial, and subject only to the conditions of the contract, which calls for a certain periodic cash payment on one side, and a certain number of daily hours of toil upon the other.

In the great businesses of each of the typical economic groups, there is also a high degree of specialization or division of occupation, so that the productive process as a whole is divided into a great number of separate processes, each of which is continuously performed by the same person or group of persons.

[NOTE.—The extent to which single immense businesses are now coming to unite under one management all the consecutive processes of production—extractive, transforming, transporting, and transferring—is an interesting subject for investigation; for example, department stores, that do their own manufacturing; steel companies, that have their own iron mines; steamboats, railroads, and newspapers, that own forests, pulp and paper mills, transportation facilities, etc. See "The Outlook" for July 31, 1899.]

Finally, each great business requires the generalship of some one person with great executive ability, to keep all the complicated details in harmonious adjustment to each other, and the products of the enterprise, as a whole, so adjusted to

the future wants of consumers, that the net result shall be a gain instead of a loss.

Survivals from Other Periods of Industry to the Present Time.

In spite of the enormous importance of capital to the various typical businesses of the Factory Period, the eyes must not be closed to the fact that survivals from all the other periods of industry are still common. Perhaps the most notable among these are the various home manufactures of articles of clothing and rude tools for home use among farmers who live in remote places; the work of cobblers, plumbers, and custom tailors, whose industry has many points of similarity to industry under the Gild System; and, most notable of all, the industries carried on in accordance with what is now called the Sweating System, which is simply a perverted form of the old Domestic System.

Partnership, Corporations, Cooperations, Etc.

The necessity for a larger investment than most persons individually can make has led men to combine their capital for large enterprises. The trading companies of various kinds which were formed long ago in England are illustrations of these combinations of capital. In this century, the growing importance of capital in production has led to the formation of more combinations of various kinds than the world ever before has seen. They exist now in nearly every community, and challenge the attention of all intelligent persons. They affect all classes, and are in process of such rapid development that anything that might be said of their extent to-day is likely to be far short of the truth to-morrow.

Two things are evident: first, we shall never go wholly back to earlier and more wasteful methods of production; general welfare lies not in trying to stop industrial consolidation and combination altogether. Second, it should be equally clear that all of us are stronger and of more importance than any of us—that mankind is more than a man or a few men, and, therefore, that the advantages of combination must not be wholly reserved to a single man or to a few men. Ways must be

found to socialize the spirit of corporate enterprises, and to distribute their benefits justly among all concerned. In the language of the formula of production worked out in Part I: Society + man + capital + land = utility; it must be in subordination to the will of society that the individual man or corporation uses implements upon land to satisfy want. The part cannot be greater than the whole.

The Undertaker. It is hardly necessary to state more definitely than already has been stated that the importance of the industrial manager to modern production has grown with the growth of the importance of capital. The business of a modern hotel, of a department store, of a steel manufactory, of a cotton factory, of a transcontinental railroad, of a metropolitan bank, requires such soundness of judgment, foresight, knowledge of human nature, ability to classify and dominate details, and rapidity and boldness of action, as have belonged of old to great military commanders; accordingly these men are sometimes aptly called captains of industry.

The term also serves to remind us of the competitive nature of modern industry, which often and often has allowed a conquering captain to drag an unsuccessful antagonist—no longer a captain, but a dependent wage-earner—after the chariot of his own economic triumph.

In proportion as the size, complexity, international character, and uncertainty of business have increased, since the early days of manufacture of wool for foreign markets, under the Domestic System, until the present day, the opportunities of economic conquests opening to the Napoleonic captains of industry have grown greater, and the necessary corps of subordinate commanders has increased.

X. WAGE-EARNERS UNDER THE FACTORY SYSTEM

Increase of Wage-earners. So far as materials, tools, motive power, and work-place have become expensive has it been increasingly difficult for the ordinary man to furnish them, and thereby set up in business for himself. The small

farms in England gave way to larger ones, and the former owners became agricultural laborers; as land becomes expensive in the United States, the same process is going on; the small manufacturer, carrier, and trader have everywhere given way before larger competitors, and are now either wage-earners or independent workers in subordinate and out-of-the-way corners of the various great fields of production. The majority of the producers of material wealth in England to-day are wage-earners, with hardly any possibility of being able to set up in business for themselves as individuals. To a less degree, a similar state of things has come to exist in the United States. With the exception of the cultivation of the soil, it seems not too much to say that only the odds and ends of modern material production remain in the hands of independent producers who possess small capital.

Freedom to Wander. Legally, the wage-earner was never so free to go wherever he chose as he has been during the latter half of the period of the Factory System. In the American colonies, during the preceding period, the complex jurisdiction of many colonial authorities, added to the English control in America, resulted in many practical restrictions upon the freedom of movement of wage-earners. The slavery system and the system of indentured servants also produced similar effects.

In England, during feudal days, the servile population was not free to leave the manor on which it was born. When these feudal bonds become too weak to hold, the Statutes of Laborers of the fourteenth century substituted restraining legislation to accomplish the same purpose. The gild regulations of medieval towns also tended in the same direction. The Elizabethan Statutes of Apprentices and Poor Laws, and the Law of Settlement of Charles II. (1660-1685) more effectually restrained wage-workers from free migration. Although nominally repealed before, these laws continued to be of great practical effect until the Poor Laws were changed in 1834.

Although at last free in theory to go wheresoever he will, the wage-worker of to-day is often ignorant of places where

help is wanted, has little or no money to go when he knows of work in a distant place, is bound to one locality by ties of family, religion, and occupation, yet frequently is turned out of his job by improvements in machinery and violent fluctuations in the demands for such services as he can render. Only a man who is possessed of great economic adaptability[1] may now feel at all sure of uniting with his new freedom of migration a reasonable certainty of continuous employment.

Homes of Workers.[2] The primary fact respecting the homes of workers in the nineteenth century has been mentioned incidentally in connection with the paragraphs on concentration of labor in modern factories, and the tendency of population toward cities and towns. Especially in manufacture, transportation, and trade, workers in large numbers have been obliged to find homes within small areas, in order that the distances between their homes and places of work might not be too great. From this fundamental fact have come the overcrowding, and the location of homes in unsanitary places, within sight and sound and smell of all kinds of processes and factories. The great mass of modern wage-workers have become life-long exiles from the sunshine and fresh air of country life. At their worst, the homes of wage-workers have, therefore, often more than justified the unspeakable accounts of tenement house life, familiar to us all. At their best, they have enjoyed the benefits of the most perfect sanitary science of the day, have allowed their occupants higher social, educational, and esthetic privileges than can be enjoyed by families in country isolation, and have demonstrated the possibility of bringing into crowded city areas something of the health and inspiration of country sunshine and vegetation.[3]

Kelley, *The Working Boy* — "The American Journal of Sociology," November, 1896.

[2]See Report of Department of Labor, No. 8.

[3]For comparison of Domestic System with Factory System see Wright, *The Factory System*, Tenth Census of the United States, vol. II.

The bicycle and trolley car are also recent factors of great significance in this question of the location of homes of modern wage-earners at a distance from their working place.

Wages and Conditions of Labor.

During the first years after the general introduction of the Factory System in England, there was a period of low wages and hard conditions of labor which it is appalling to read about even now. "The tale of their sufferings may be studied in the Blue-books and Reports of the various Commissions which investigated the state of industrial life in the factories, mines, and workshops between 1833 and 1842; or it may be read in the burning pages of Engel's *State of the Working Classes in England*, in 1844, which is little more than a sympathetic résumé of the facts set forth in official documents. We hear of children and young people in factories overworked and beaten as if they were slaves; of diseases and distortions only found in manufacturing districts; of filthy, wretched homes, where people huddled together like wild beasts; we hear of girls and women working underground, in the dark recesses of the coal mines, dragging loads of coal in cars where no horses could go, and harnessed and crawling along the subterranean pathways like beasts of burden. Everywhere we find cruelty and oppression, and in many cases the workmen were but slaves, bound to fulfill their master's commands, under fear of dismissal and starvation. Freedom they had in name; freedom to starve and die; but not freedom to speak, still less to act, as citizens of a free state. They were often even obliged to buy their food at exorbitant prices out of their scanty wages at a shop kept by their employer, where it is needless to say they paid the highest possible price for the worst possible goods. This was rendered possible by the system of paying workmen in tickets or orders upon certain shops, which were under the supervision of their employers. It was called the 'truck system'; and was at length condemned by the law (1887), after many futile attempts had been made to suppress it."[1]

[1] Gibbins, pp. 422, 423.

In the decade between 1830 and 1840, similar but less deplorable conditions became common in the manufacturing centers of the United States, especially in New England.[1] The hours and conditions of labor, therefore, became subjects of legislation in both England and the United States, but the question as to the amount of wages has been in the main untouched by legislation in this country.

Parliament declined to interfere with wages in 1813, by its repeal of the statutes which had hitherto provided for the regulation of wages by justices of the peace. Since that date, wages have been legally adjusted by a contract between the employer and the employed. In the United States, since the Revolution, the amount of wage has been considered to be a matter for contract and not for legislation.[2]

The struggle between employers and employed over the question of wages and conditions of labor has been continued, and has gone now in favor of one side and now in favor of the other, as conditions have changed. On the whole, wage-earners, both in England and the United States, have been gaining an increasing wage during the last fifty years. Still, production has more than kept pace with this rise in wages, so that wage-earners get a decreasing fraction of the total value of the net product.[3]

Again, statistics of the average rate of wages received often give an exaggerated impression of the actual wages, because they do not take sufficient account of the periods of non-employment, which are frequent. A wage that would be entirely satisfactory if received for every working day throughout the year, often becomes painfully inadequate because of periods of enforced idleness. "It is a prosperous year, indeed,

[1]MacLean, *Factory Legislation for Women in the United States*, —"The American Journal of Sociology," September, 1897, pp. 185, 186.

[2]Stimson, p. 17.

[3]Wright, *Industrial Evolution of the United States*, pp. 191, 192.

when the average wage-receiver aggregates forty-four full weeks employment."[1]

Summary of Factory Legislation.

As to the improvement in conditions and hours of labor, especially in factories, much has been done, both in England and the United States, partly through the direct efforts of those who are employed, but far more through legislation. In England, this legislation has been going on ever since 1802, and relates especially to such conditions as the following:[2]

1. The minimum age for children who can be employed in factories.
2. Limitation of the working day for children and women.
3. Prohibition of night work to children.
4. Compulsory education of children.
5. Sanitary conditions of factories and other places of work.
6. The protection of employees against accident, by requiring greater precautions in factories, mines, etc.
7. The limitation of the hours of work for men.
8. Employers' liability for losses due to death and other accidents of laborers while at work.

The Acts of Parliament of a similar tenor to that of the legislation just mentioned have been mainly in the interests of wage-workers. In the aggregate, they have been very numerous, and cover nearly the whole period from 1802 until the present time. Taken together, they form a great body of statutes known as the English Factory Laws.

In the United States, similar legislation began as early as 1842 in Massachusetts, by limiting the hours of work for children under twelve to ten hours per day. Since that time, factory legislation has made some progress in the various states, though by no means so much as in England. Each state here is a law unto itself, and uniformity does not exist. The following table must serve as a suggestion of what has been accomplished already, and also of what remains to be done:

[1] Spahr, p. 101.

[2] Hobson, *The Evolution of Modern Capitalism*, pp. 321-323.

"States having inspection laws.....12
States having women inspectors..... 6
States regulating hours of labor.....32
States having sanitary laws.....12
States providing seats for women employees.....22

NOTE.—Only seven regulate hours of women over 18 years, and only five of these, hours of women over 21 years." [1]

The Efforts of Wage-Earners at Combination.

Various laws against combinations of wage-earners for the purpose of securing higher wages and better conditions of work, were passed in England from the time of Edward VI. (1547-1553), but these were all summed up in the famous Combination Laws of George III., in 1800. These "strictly forbade all combinations, unions, or associations of workmen for the purpose of obtaining an advance in wages or lessening the hours of work." [2]

In 1824 these laws were repealed, although the very next year Parliament declared illegal any action that might result from combinations of workers. From 1838 to 1848, the Chartist movement grew strong, and the wage-workers demanded a Charter, by which vote by ballot, abolition of property qualification for voters, the payment of members of Parliament, and universal suffrage, should be guaranteed. When this movement partially died out, trade unions were more rapidly formed, and in 1871 legalized by Act of Parliament. In England, therefore, the full right to combine in their own interests has been freely enjoyed by workers only about a quarter of a century.

The number of wage-workers in England who were members of trade unions in 1892 is put by Mr. Sidney Webb[3] at from 1,500,000 to 1,600,000. Although this is only about four per cent of the total population, it would be a much higher per cent of the adult working males. In some counties, we are

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[1] MacLean, p. 203.
[2] Gibbins, pp. 416-421.
[3] *The History of Trade-Unionism*, p. 409.

told, over one-half the total number of working men are members of unions. "The Trade-union world is, therefore, in the main, composed of skilled craftsmen in densely populated districts, where industry is conducted on a large scale. About 750,000 of its members—one-half of the whole—belong to the three staple trades of coal mining, cotton manufacture, and engineering, whilst the laborers and the women workers remain, on the whole, non-unionists." [1]

In general, it may be said truly that the tendency toward combination and coöperation among English wage-earners is growing stronger all the time.

In the United States, also, combinations of workers followed the introduction of the Factory System. Labor unions proper, designed to improve conditions of men as laborers, began in the United States about 1825.[2] From that time, they gradually increased in number and importance, in separate groups of occupations, until 1869. At that time the combination of laborers known as the Knights of Labor was organized in Philadelphia. This marks a new epoch in labor organizations in this country, for it gives a sort of Federal union to the separate trade unions, and even to unorganized men. Examples of other great labor organizations in recent years are the Federation of Labor, the United Mine Workers of America, which, under the leadership of John McBride, called from 150,000 to 200,000 men out of the coal mines in 1894; and the American Railway Union, which, under the leadership of Eugene V. Debs, in the same year, involved 100,000 or more railroad men in a historic strike.

Such great combinations of workers have often performed acts of intimidation, restrained trade and transportation of the public as a whole, and performed numerous other acts that have been declared illegal by the courts. But "combinations of laborers or employers, in their collective capacity, to

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[1] Webb and Webb, p. 430.

[2] Ely, pp. 39, 40.

fix wages or make other rules binding among themselves, are legal."[1] This has been true since the Revolution.

"The progress of the labor movement may be compared to the incoming tide. Each wave advances a little further than the previous one; and he is the merest tyro in social science, and an ignoramus in the history of his country, who imagines that a permanent decline has overtaken organized labor."[2]

The significance of these combinations in determining wages and conditions of labor will be further discussed in Part III.

The Political Status of Wage-earners.

The ratio of those who have taken part in the government to the total population of England has greatly increased during the centuries since King William I. The wresting of Magna Charta from King John (1199-1216) and its thirty or more ratifications from succeeding sovereigns, the growth of the English Parliament, the rebellion against Charles I. (1625-1649), the election of William and Mary (1689-1702) as sovereigns of England, the extension of suffrage by the Reform Bill of 1832, and its still further extension by the Acts of 1884-1885, are repeated evidences of the success of the English people in their efforts to gain an increasing share in the administration of national affairs. Almost complete manhood suffrage exists in England to-day in Parliamentary elections, and almost complete manhood and womanhood suffrage exists for local elections. Taken altogether, suffrage is more extended in England than in the United States. In both countries, the power of wage-earners through the ballot box is now practically determined by their numbers and the wisdom of their trusted leaders. No measure in either country can long remain in force without the support of the wage-earner's vote. His political enfranchisement is well-nigh complete. Of the rise of successive classes of the English people to political power, a recent writer says: "With the final dismissal of the legitimate monarch,

[1] Stimson, pp. 167, 168, and following.

[2] Ely, p. 90.

James II. (1685-1688), and the substitution of a foreigner in his place, the English upper classes secured that constitutional ascendency in the government of the nation which remained with them for just one hundred and fifty years; which devolved upon the middle class for just another fifty years in 1832; and has now been transferred—with what results it is yet too early even to attempt to forecast—to the laboring population."[1]

XI. LEGAL SOCIETY AND PRIVATE BUSINESS ENTERPRISES: FREEDOM OF CONTRACT AND THE RIGHT OF PRIVATE PROPERTY

Restrictions Upon International Trade.

Although the preamble to the Second Act of Congress, under the Constitution, stated one of the objects of the law to be "the encouragement and protection of manufactures," still the idea of a tariff for protection, as contrasted with a tariff for revenue, gained ground but slowly for about thirty years. It then became a party tenet, and, in 1824, an act was passed which "was an advance on all preceding tariffs in its consistent design to exclude foreign competing goods from American markets."[2] The southern members considered it "sectional, unconstitutional, and unjust." In 1828, the protective idea was still further emphasized. After that date, until the Tariff Acts of 1861, this idea rather lost ground. Since 1861, the Republican party has persistently upheld the doctrine of protection, and the Democratic party has denounced it. In the national campaign of 1896 the respective party platforms contained the following statements: Republican—"We renew and emphasize our allegiance to the policy of protection as the bulwark of American industrial independence and the foundation of American development and prosperity;" Democratic—"We hold that tariff duties should be levied for purposes of revenue, such duties to be so adjusted as to operate equally

[1] Taylor, *Introduction to a History of the Factory System*, p. 340—1886, Bentley & Son, London.

[2] Johnston, *History of American Politics*, p. 100—3d ed., 1892, Henry Holt & Co., New York.

throughout the country, and not discriminate between class or section, and that taxation should be limited by the needs of the government, honestly and economically administered."

For nearly the whole period of our national life, therefore, the doctrine of interference, for the supposed national good, with international trade and domestic business of private persons has had ardent and, during much of the time, triumphant advocates in the United States.

In England, the Napoleonic wars furnished the occasion for many restrictions upon foreign trade. Likewise, the famous Corn Laws, enacted from 1773 to 1815, and repealed in 1846, were a perpetual obstacle in the way of would-be exporters and importers.

These bare statements of fact suggest the numerous modifications, not only of trade contracts, but also of contracts for manufactured products and for products of extractive industries, which the legislation of England and the United States has caused during the period now under consideration. Private business in both countries has always been a very different thing from what it would have been had no laws about international business been made by political society.

The Growth of a Laissez Faire, "Let Alone" Policy.[1]

Nevertheless, in spite of these restrictions, there was growing up in England, during the last of the eighteenth century and the first of the nineteenth, a belief that government interference with productive enterprises of all sorts resulted in more harm than good; in fact, that the self-interest of individuals, if allowed a free reign in economic matters, would work out the greatest possible good to all parties concerned. Therefore, contracts between landlords and tenants over rents, between lenders and borrowers over interest, between employers and employees over wages, and many other contracts, were left more to the contracting parties themselves than ever before had been the case. The common saying, borrowed from the French, was, "Let things alone; let them take their own course." The repeal of the

[1]Consult index of any books at hand on political economy.

Corn Laws, although in part due to the influence of manufacturers who wanted cheap food for their employees, was also due in part to a belief in the soundness of this principle.

Still, laws that were inconsistent with *laissez faire* were not confined to those regulating international trade. *Laissez faire* was never freely practiced. Combinations of employers to keep wages down and the condition of wage-workers unfavorable, were allowed in England, while combinations of workers to raise wages and to improve conditions of wage-workers were, as we have seen, forbidden. Because of such legislative inconsistencies, and also because of the fundamental fact that contracts, as a rule, turn out well for both parties only when both parties are equally well equipped for the economic struggle of making a contract, we have seen that the condition of wage-workers, both in England and the United States, grew, in many cases, so deplorable that a reaction against *laissez faire* set in, and a long course of factory legislation was entered upon in both countries, the end of which is not yet. Anti-monopoly and anti-trust legislation has also been very frequent in the United States.[1]

Furthermore, contracts of many kinds, especially wage contracts, are made more and more between a combination of men on the one side and a combination of men on the other side. Thus, through voluntary action in groups, as well as by legislation, great social restriction is placed upon individual freedom of contracts.

In brief, it may be said:

1. Society, through its law-making bodies, in both England and the United States, still interferes with individual freedom of contract, that is, with private business.

2. These legal interferences are now less with the details of contracts than with the limits within which the contracting parties may bargain with each other.

3. Men also voluntarily limit their own freedom of contract

[1]Forrest, *Anti-Monopoly Legislation in the United States*,—"The American Journal of Sociology," January, 1896, pp. 411-425.

by social agreements, associations, and combinations of many kinds.

4. In spite of all restrictions, the economic relations of men to each other during the Factory Period have been determined less by custom and by past conditions, and more by contract on the basis of existing conditions, than ever before.

Social Property versus Private Property.[1] During this period, individuals have been protected by governments in the complete exercise of the right of property over almost every species of good that can, by its nature, be exclusively appropriated by an individual. Both natural and legal persons (corporations) have exercised the exclusive right of property over natural resources, accumulations of wealth, economic processes, charter privileges, inventions, etc., to such an extent that certain classes of thinkers have been led to the opinion that the general welfare demands radical restrictions upon it. Socialists, for example, believe that all natural resources, exclusive economic privileges, and capital, should be social rather than private property.

In a democratic country, as the opinion in favor of the private ownership of anything prevails, so are the legislative and administrative powers of government enlisted to enforce that opinion. On the other hand, just so far as the opinion in favor of public or social ownership of anything prevails, government tends to enforce that opinion.

It is necessary, therefore, to state further in this connection, with all the emphasis possible, that side by side with the facts of private ownership during this century there exists also a great body of facts concerning more or less successful attempts at social ownership. Consequently, while the question of private ownership versus social ownership is being asked in a multitude of particular instances with an altogether new insistence in these days, in giving an answer in any particular

[1] Consult recent files of such magazines as "The Forum," "Review of Reviews," and especially "Municipal Affairs," for articles on various forms of social ownership.

case even the ordinary voter does not need to decide blindly or dogmatically. The experiences of various cities in owning their own street railways, light and water plants, parks, baths, museums, and other kinds of property; and the experiences of countries with the telegraph, railroads, and steamship lines, are already sufficient for the formation of an intelligent opinion respecting the probable results of similar proposed attempts in the voter's own town, city, or country.

Among all the motives which can be seen to have stimulated the great variety of economic legislation glanced at in these pages, the highest has been a genuine desire for the welfare of all the persons in the communities affected by that legislation—for social welfare rather than for private welfare. From this point of view, two criticisms may be made:

1. Sometimes the real purpose of legislation was to secure private welfare rather than social.

2. Sometimes too little care was taken to form a sound opinion as to the probable results of a law.

Suggestive Questions.

1. What accounts have you read of early attempts to introduce machinery of different kinds into the United States? Relate some of these stories.

2. What novels have you read which describe the changes in any industry from hand methods to machine methods of production? Give, in brief, the story of some one of them.

3. Give accounts of some of the consolidations of railways, steamship lines, or any other business enterprise of which you have personal knowledge.

4. Why did these combinations take place? Who brought them about?

5. What laws were made to help or to hinder these consolidations? With what results?

6. Give accounts of the transportation of fresh meats, fruits, and vegetables, long distances. How were these things done? Why were they done?

7. Give illustrations of changes in agricultural methods,

crops, fertilizers, etc., which have taken place in any locality. Why were these changes made?

8. Describe the process by which any persons known to you have been led to give up business for themselves and to go to work for somebody else. In what respects are they now better off than before? In what respects worse off?

9. Show how a man in New York or London can buy a cargo of wheat in Chicago, hire a boat on which to carry it, hire men to load the boat, pay for the wheat, get it insured, and know that it is on the way toward him, in a few hours time.

10. Ask business men for the quickest time known to them in some such transaction. Tell how it was done.

11. Compare these facts with what could have been done a hundred years ago.

12. Make inquiries among the most intelligent people about you to find out what they know of such industrial history as has been given in Part II.

13. Make similar inquiries among trade union members. Where do you find the best informed men?

14. Give all the examples known to you of attempts on the part of employers to make employees more interested in the business.[1]

15. How have these attempts succeeded?

16. Give as many illustrations as you can, from your own observation, of men who are now working according to the methods of the Home System, Gild System, Domestic System.

17. Why are they so working? What kind of a living do they get?

18. Describe any attempts known to you that are being made to get people out of the cities to become extractors. Are they successful attempts?

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[1] Howerth, *Profit-Sharing at Ivorydale* — July, 1896; Monroe, *Possibilities of the Present Industrial System*—May, 1898; Monroe, *Profit-Sharing in the United States*—May, 1896; all in "The American Journal of Sociology."

19. Ask people who have gone from the country to the city why they went. Give results of change.

20. Describe some attempts which are being made to make any city a better place in which to live.

21. Read the advertising and want columns of a daily paper, and make a list of the different kinds of services that can be bought now. How does the list compare with the services that could be bought a century ago? What has made the difference?

22. Of what value is a sketch of industrial history in an attempt to understand the present industrial system? Explain.

23. When a voter is trying to settle the question as to his vote for or against social ownership of gas works, water works, etc., for his city or town, ought he to seek to aid the public as a whole—social welfare—or merely the private welfare of some group of men or section of the town? How can he be sure of his intentions?

24. What care ought he to take to inform himself, from the experiences of other places that have tried both social ownership and private ownership, as to the probable result in his own town?

25. If the intention of voters is to secure the social welfare, and great care is taken to get all possible information, what can you say of the seriousness of mistakes likely to be made?

[NOTE.—For detailed suggestions as to further social economic study, accompanied by selected bibliography, see Howerth, *A Programme for Social Study*, "The American Journal of Sociology," May, July, and September, 1897.

For valuable bibliography on municipal questions see Brooks, *Bibliography of the Sweating System*, "Municipal Affairs," vol. I.

For description of social economics in official publications of the United States see Wright, *Contributions of the United States to Social Science*, "The American Journal of Sociology," November, 1895.]

PART III

ELEMENTS OF ECONOMIC THEORY

CHAPTER I[1]

UTILITY, VALUE, AND CONTRACTS

Introductory Suggestions and Questions.

1. Show that all goods are not equally necessary to the support of human life.

2. Mention several commodities that differ in this respect.

[1] Very few references will be cited in Part III. It is earnestly recommended that a small library of the best books on economics be secured, and that each pupil consult at least one of these books by means of its index as the text is read. The following are among the best for this purpose:

Bullock, *Introduction to the Study of Economics;* Davenport, *Outlines of Elementary Economics*—The Macmillan Co., New York; Ely, *Outlines of Economics,* College edition—Eaton & Mains, Boston; Laughlin, *The Elements of Political Economy*—American Book Co., New York; Marshall, *Elements of Economics of Industry*—The Macmillan Co., New York; Walker, *Political Economy,* briefer course—Henry Holt & Co., New York.

"As much of the original material can be had for the asking, there is no reason why every library should not be abundantly supplied with it. First, there are the financial columns of the newspapers—so neglected by the general reader. *Bradstreet's* and the *Commercial and Financial Chronicle* give similar matter much more fully, but they are expensive. By keeping on the blackboard the current quotations for sterling exchange, the rate of interest on call loans, and the prices of silver, wheat, cotton, making the work one of coöperation by the class, material will be at hand to illustrate many a delicate point. Bank statements can be found in the newspapers, or on leaflets distributed directly from the banks; these should be studied until they are understood. City finance reports

3. Make four or five groups of men's wants, and arrange them in the order of the necessity of their satisfaction to the continuance of life.

4. Do men ever make greater efforts to obtain goods not necessary to life than to obtain those that are necessary? Illustrate. Give reasons for such action.

5. How does a man who produces most of the utilities he consumes decide when to turn from the production of one to that of another?

6. How do boys decide whether to play base-ball or tennis if the choice is offered? Will the same boy decide the same way every time? Why?

7. What use did you make of your last month's allowance of spending money? Why?

8. Will you spend the allowance of next month in the same way? Why?

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and state auditor's reports bring the student into touch with his immediate surroundings. The Consular Reports, issued by the Department of State, give information about industrial conditions in foreign countries. The Bulletins and Reports of the Department of Labor constitute a mine of information on the labor question. The Treasury Department issues many valuable documents; among them is a handy little pamphlet about coinage, currency, and the production of the precious metals; also copies of the recent tariff acts. The Bureau of Statistics issues the Statistical Abstract of the United States, an annual volume of over 300 pages; this is the most valuable collection of material for the use of elementary students that can be found. Some of the numbers of *Sound Currency* may be used without partisanship, such as 'Currency Statistics' and 'Coinage and Currency Laws of the United States'; the latter is invaluable." — Clow, *Economics as a School Study* — Economic Studies, vol. IV, no. 3, pp. 230, 231, American Economic Association.

Many of the most earnest weeklies and monthlies among the periodicals also contain frequent articles of great interest and value to students of economics. Some such articles have been cited in the list of periodicals at the end of Part III. Such material is accessible to all, but should not be read to the exclusion of some more complete statement of economic theory than has been attempted in Part III.

9. Can you always buy the same amount of a particular thing for the same amount of money? Why?

10. Why do boys "swap" jackknives for marbles?

11. Is a purchase usually beneficial to both buyer and seller? Why?

12. Are there exceptions to the truth of your statement? Why?

What is Here Attempted. The two questions to which a definite answer will be given in this chapter are: (1) What determines the particular good which a man will first strive to obtain, and when will he turn from seeking this good to pursue another? (2) What determines the amount of one commodity that can, at a certain time, in a certain market, be exchanged for a definite amount of another commodity?

Two Factors Present. In answer to the first question, it may be said in general that men strive to possess desirable things according to the intensity of their desires for them. But the intensity of any person's desire for a special good at a special time depends upon: (1) the kind of utility it has—that is, utility to satisfy hunger, thirst, cold, desire for knowledge, companionship, beauty, spiritual uplift, etc.; (2) the quantity of that kind of utility which has already been appropriated toward the satisfaction of this desire.

Illustrations of the Influence of Quantity on Desire. A hungry boy, in an orchard, finds the first big red apple intensely satisfactory. The second is scarcely less so. But, if he eats a third and a fourth and a fifth, he reluctantly admits to himself that he doesn't like apples so well as he thought he did. In comparison with hunting or nutting, going over to see Tom on the adjoining farm, or even following the men in the harvest field, eating apples soon ceases to be attractive. What youth does not remember his disgust at himself at losing his appetite before he had cleared the table of all the good things that load American tables on Thanksgiving day? Van Bibber, in one of Richard Harding Davis's stories, makes use of this peculiarity of human want in forcing a hungry beggar to eat to satiety as a punishment. The utility of food in this case

became negative. "Enough is as good as a feast," "Familiarity breeds contempt," and, "Too much of a good thing" are sayings which had their origin in universal human experience. Desire for any particular thing usually grows less with continued consumption of its utility.

In the case of the boy and the apples, the last apple eaten and the first one left uneaten are often called "marginal." If he had found plums as well as apples in the orchard, the decision to eat no more apples would probably have been earlier, and numbers two and three, instead of five and six, might have been the marginal apples. In any case, he would stop eating apples the moment his satisfaction from that process became less than the satisfaction from doing something else.

A person who is free to do as he chooses and can by effort satisfy wants of great variety chooses first the satisfaction of that want which at the time he feels most keenly. In vacation time, when the student is free to follow his own whim, he plays tennis, golf, and base-ball; swims, rides his wheel, eats, reads, and tramps, as the desire for one thing or another is more keenly felt.

Absolute Utility Contrasted with Effective Utility.[1] If we were to classify different goods from the point of view of the preservation of human life, some would be found more necessary to life than others. For example, food, air, and water, and clothing and shelter in cold climates, are absolutely necessary to life. On the other hand, many forms of service which tend to satisfy intellectual, esthetic, and spiritual wants are not necessary to the continuance of the physical life of man. In a true sense, then, those things which are necessary to the continuance of life may be said to possess a high intrinsic, or absolute, utility; while those things which are not necessary to life possess a low absolute utility. Goods might, then, be arranged in a long series, from those possessing the greatest absolute utility

[1]Compare (using index) Clark, *The Philosophy of Wealth*—Ginn & Co., Boston.

to those possessing the least. If a man lacks all kinds of goods, he, as a rule, strives to obtain first those which have the highest absolute utility. The human race has done similarly. It is not intended here to cover up the fact that certain men have, all through the centuries, given up everything they possessed, even physical life, for the sake of freedom to think and worship as they thought right. Wherever men and women have had to choose between *being* something less and *having* something less, many noble souls have always been ready to *have less* and *be more*. So long as men have life, however, so long as their being something depends upon a continuance of that life, even the noblest buys bread, rather than poems, with his last nickel. It is in view of the dependence of the intellectual and spiritual life of a man upon his physical life that the absolute utilities of food, clothing, and shelter have been called *highest*. Only as men and races have been able to keep the clamorous desires for food, clothing, and shelter somewhat satisfied by supplies of appropriate goods, have desires for knowledge, beauty, and spiritual insight usually made themselves felt.

By adding to the quantity of a good whose absolute utility is highest, a person may, for the time, feel more keenly a desire for something else whose absolute utility is low. If the quantity of anything whose utility is high absolutely is so great that the absence of a certain amount does not appreciably take away from his enjoyment, its effective utility to him, at the moment, is low. On the other hand, if the quantity of a thing with low absolute utility is small, the lessening of that quantity may take away much from his enjoyment, and the effective utility of it at the time therefore be high. Not in proportion to the absolute utilities of goods, but in proportion to their effective utilities, do men strive to obtain them. When the quantity of a thing whose absolute utility is high has become so great that another thing, with perhaps lower absolute utility, has a higher effective utility, a man turns from his effort to secure more of the first and works for

the second. Taking one hour with another and one day with another, he tries so to apportion his efforts that the effective utility of one thing will be the same as that of another; in other words, so that one want will not be felt more keenly than another. The human race is continually making the same effort.

Equal Satisfaction not Gained by All.

Some men and some nations struggle hard to "keep the wolf from the door," while others are seldom hungry, cold, or unsheltered from a storm. Certain classes of wants are commonly felt by the poor, and very different wants are at the front with the rich. But among all the wants realized most keenly by each, effort is so apportioned that one is nearly of the same intensity as the others. This is done very largely by varying the quantity factor in effective utility.

Examples Involving the Use of Money.

A student with an allowance has to decide how to spend it. With him the choice is not between the money and one thing which it will buy, but between one thing which it will buy and other desirable things which may be bought with it. He compares the effective utilities of all the things desired, and chooses the one whose effective utility is highest. If he spends one dollar for a concert, rather than add a new book to his library, it is because the effective utility of the concert is the higher. Next week he may do the same thing, and possibly the next after. But, if the concerts continue of about the same character, the time is likely to come before many weeks when the book will seem more attractive than another concert. In a similar way, he decides between a new tennis racket and a class pin, between a tally-ho ride and a game of base-ball which demands an admission fee. He buys the good chosen at the expense of the most highly desired good rejected.

A man with a small income decides whether to spend five dollars for a ton of coal or two tickets to the grand opera. He buys the coal at the expense of an evening at the opera. A man with a larger salary, whose coal-cellar is already well

filled, may have to decide between the opera and a monthly banquet. The opera seems more attractive. These two expenditures of five dollars show that each spends his money for the one thing, of two or more, whose effective utility to him is highest, and also that the choices were made on different levels of want.

Distinction Between Value and Utility. Value corresponds to effective utility. When the word utility is used alone in these pages, it means absolute utility. Men arrange schedules of desirable things, as we have seen, according to their effective utilities. They value them in the same order. As a man values a thing will he put forth effort, or sacrifice other enjoyments, for it. Air and water are necessary to the continuance of physical life. Their absolute utility is high. But, owing to the quantity of them usually available to man, even in cities, the value of the quantity used is low. Make them scarce, and their value rises. "All that a man hath will he give for his life," and for the means of life as well.

Our final answer to the first question proposed is, therefore, as follows: A man first tries to obtain that good whose value to him is greatest, and he turns from pursuit of that when, by increasing the quantity in his possession, the value of it has been lowered below the value of some other good.

The Formula for Value. From the point of view, therefore, of any single person, the factors outside of himself which determine his valuations of all things that seem desirable to him are expressed in this formula:

Value is dependent upon { 1. Absolute utility. 2. Quantity.

Another statement of this truth which gives a correct impression about the number of goods that have utility compared with the number that have value is this:

Goods having utility: { 1. Those having little or no value because the quantity is so great. 2. Those so limited in quantity that they have value.

The substitution of a good with high absolute utility for one with low absolute utility, or the decrease of the quantity of a given good tends to increase the value of a unit of the good resulting.

On the other hand, the substitution of a good with low absolute utility for a good with high absolute utility or the increase in the quantity of a given good tends to decrease the value of a unit of the good resulting.

In other words, value varies directly with absolute utility, and indirectly with quantity.

Illustrations and Questions. 1. How do the following illustrations harmonize with the formula of value?

a. A suit of clothes was new, and now it is old.

b. A tree that has given only shade begins to bear fruit.

c. A woman's hat, although "as good as new," goes out of style.

d. A tool is made that enables a man to accomplish twice as much in a given time as with the one he has.

e. The pneumatic tire competes with the solid rubber tire.

f. A man was dependent upon his own wages, but inherits a fortune.

g. A millionaire becomes bankrupt.

h. While a man's income remains the same, the commodities he can get with a dollar grow fewer.

i. His income remaining the same, he can buy more commodities for each dollar.

j. Automobiles become cheap in price and cost less to run than it costs to keep a horse.

2. Mention some of the methods, not wholly under the control of a man himself, by which the per cent of his total income that he may spend for himself and family may be increased or diminished. Give similar examples of changes in what a dollar will buy.

3. What things that have utility are also valuable?

4. Suppose you represent a value level and a utility level, by two lines, and various things by the letters x and y, thus:

Value level $x \quad x \quad y'' \quad y''$

Utility level $x' \quad x' \quad y' \quad y'$

$x'' \quad x'' \quad y \quad y$

Suppose, further, that there are below both levels material things ($y\ y$) that a man feels no want for. They have no want-satisfying quality to him. Explain how they may be brought above the level of utility ($y'y'$) and then above the value level ($y''y''$).

5. Suppose other material things ($x\ x$) to exist above the value level of the same man. Explain how they may sink below the value level ($x'x'$) and then below the utility level ($x''x''$).

6. Give illustrations from common life for each of the above cases.

a. Think of a tin can, when full of fruit and sealed, when used as a flower-pot, and when lying with other empty cans in the alley, for one case. Give another similar case.

b. Might a sandpile, or a layer of stone under the soil, illustrate the first stage of the other case? Explain.

7. For men in general, is there a continual rise and fall of materials past the utility and value levels? Why?

Valuations in Trade. When a farmer voluntarily trades a horse with his neighbor for two cows, each gives that which to him is of less value for that which is of more value. At least, this is each man's opinion at the time. The farmer with his horse may have had his stock of working horses increased by "breaking in" a colt, so that one of the older horses could be spared without causing him much inconvenience; at the same time, his cows are not giving milk enough to

supply his customers, and he needs more cows. On the other hand, his neighbor has decided to reduce his pasture land and raise more corn, and needs another horse to make up a team for the plough. The effective utility, the value, of what A offers is, therefore, greater to B than the value of what he himself offers, and contrariwise. Both would have been gainers to "trade even." Did they trade even? For the sake of simplicity of illustration, we may suppose that the trade was between these two, and neither tried to see whether he could do better by trading with somebody else, or by selling for money and buying what he wanted with the proceeds, although both of these courses are usually considered by actual traders. But shut up to each other, did the farmers trade even? If each valued the other's possession only a little higher than his own, it is likely they did. If each valued the other's possession much higher than his own, or if either did so, they may not have traded even. Suppose the man with the horse would really give his horse and ten dollars rather than not get the cows. If his neighbor is shrewd enough to detect this eagerness, he may get the horse and "boot" to the amount of one to ten dollars for his cows. If the man with the cows were the eager one, from one to ten dollars might have been paid the other way. In each of these cases, if nearly all the gain from the trade went to one man, it was possible for him to gain something more than ten dollars, for he would have been benefited to trade even; and the other gained something, in his own estimation, even though he paid ten dollars "boot," else he would not have traded.

Suppose, now, that each man had been willing to give ten dollars rather than not trade. To trade even would be this ten dollars advantage to each man over not trading. If either concealed his eagerness and detected that of his neighbor, he might get, in addition, from one to ten dollars direct money payment from his neighbor. The total advantage to the shrewder man would now range between ten and twenty dol-

lars, while the advantage of the other would still be something, as he preferred to give ten dollars rather than have the trade fail.

It will be seen from this illustration that when two persons attempt an exchange, two valuations are made by each. First, each compares his own possession directly with the other's possession, and decides which is the more valuable to him. Second, each compares the two possessions from the point of view of the other, and tries to find out what the other's valuations are. By the direct valuations it is determined whether or not any trade at all can take place. If each values his own possession higher than that of the other, there can be no trade. If each values the other's possession higher than his own, a trade can take place. If both agree upon one possession as the more valuable, there can be no trade. If a trade is possible, the indirect valuations help to determine how the possible advantages from the trade shall be shared by the two men.

Purchase in Money. To very few persons is money desirable for its own sake. Misers and coin collectors are exceptions. To most, money is desired as a means to the enjoyment of various forms of wealth and service. In a case, therefore, where one person is deliberating whether or not to buy that which another offers, the possible buyer has to decide by his direct valuation whether the special commodity offered is more valuable to him than some other commodity that the money will buy. The possible seller likewise decides whether the commodity he offers is more or less valuable to him than some other commodity which he can buy with the money to be received.

Price. When money is exchanged for some form of wealth or service, the amount of money is said to be the price of the wealth, or service. The amount of money the buyer is willing to pay rather than not receive the commodity is called the buyer's price. The amount of money the seller is willing to take rather than not part with

the commodity is called the seller's price. The difference between the price actually received and the seller's price is what the seller gained by selling. The difference between the price actually paid and the buyer's price is what the buyer gained by buying.

Suppositions Made. In the case of the two farmers mentioned, we assumed that: (1) each was seeking his own advantage with all his might; (2) the conditions of the exchange were not affected by the opinions of others, or by possible trades with other persons; (3) each man was free to trade or not, as he chose. How far are these suppositions true in actual life?

Seeking One's Own Advantage. To realize that cases exist where exchangers of goods strive to the utmost to gain as much as possible for themselves, you have only to remember the cases of "higgling over a penny" which you have seen, your own attempts to trade tops, jackknives, marbles, etc., and the rush of all classes of people to supposed "bargain counters" and "sacrifice sales." On the other hand, your own experience will doubtless be equally convincing respecting the existence of exchangers who seek to give as much as possible in return for as little as possible. Mothers and fathers give lives of service to their children, expecting little in return; public spirited men and women give years of service to great causes, to the welfare of the community as a whole, and to the poor and unfortunate, with no thought of pay; and boys and girls often give up some of the best of their toys and dainties to those who are less fortunate, accepting nothing in return, or, at most, only enough to make the other person feel that he has not received a gift outright. Many exchanges are made between friends, neighbors, and persons, one of whom, in some way, has an advantage over the other which he is unwilling to push to its utmost. Thus, it must be remembered, that bargains range all the way from those where each party seeks his own advantage with all his might, to those where one or both parties are trying to give the greatest possible

value for the smallest possible value. The typical case in economics, however, is where each seeks his own advantage. It may be interesting at this point to ask ourselves and each other how many cases we have known where one or both parties did not seek all he could get.

1. Give cases known to you where persons who were seeking for a house paid more rent than was asked.

2. Where less rent was taken than the house-seeker offered to pay.

3. Give similar cases for: (*a*) wages; (*b*) goods purchased in a store; (*c*) goods purchased of an acquaintance; (*d*) use of land for a building or for cultivation; (*e*) services of physicians, lawyers, teachers, nurses, etc.; (*f*) fares upon the railway or upon a boat; (*g*) tickets to a concert or a theatre, or any entertainment.

4. Give reasons for the unselfish action in each case.

5. How do such cases compare in number with the contracts where each person tries to do the best he can for himself?

6. What social acts of men can you think of that are not included in the following classification?

Social human actions:[1]
1. Those performed under compulsion, compulsory.
2. Those by which men make contracts with each other, contractual.
3. Unselfish, altruistic.

7. Give illustrations of each.

8. Which group of acts more nearly coincides with the sphere of economics?

9. In which group does much of the work of governments lie? Explain.

10. How many of the groups must sociology study? Why?

External Influences on Trade. Possibly Crusoe and Friday sometimes traded as if they two were alone in the world, although the valuations which each made were even then determined somewhat by their previous associations with other

[1] Pantaleoni, "Yale Review," May, 1898, p. 95.

men. In the case of the two farmers cited above, it will be noted that the reason why one man wanted more cows was dependent upon the existence of his customers. In actual life it would also be impossible that their valuations of horses and cows should not be determined somewhat by the valuations of others in that vicinity. Where money is used to buy a commodity, the mere fact of the existence of money implies a large number of other persons who are willing to take it for goods of various kinds. It is the power to represent goods of all kinds for all classes of people that makes it money. Persons know in a general way, often precisely, just how much of a great variety of other goods they can get for the money they decide to give for the one they buy. Here, then, is a condition of bargaining that needs further investigation. How are general or market prices of goods determined? This is but another form of the second general question of this chapter. After the freedom of persons to contract as they choose has been discussed, this question will receive definite attention.

Limitations Upon Freedom of Contract.

All the legal restrictions upon freedom of contract mentioned and suggested in Part II should be recalled here. Emphatic mention is also made of the fact that a person may freely choose to make a certain contract which gives unusual benefit to the other party, rather than make no contract at all, simply because he is ignorant of the values which men in general put upon the commodities exchanged, and also because he is so situated that no contract means great loss, suffering, sometimes even death, to him and those dependent on him. Instances of the former are numerous among uncivilized people who accept a few trinkets and gewgaws in return for rare furs, ivory, precious stones, etc. Forced sales of real estate, houses, furniture, etc., and the wage contract of persons who must sell their services to-day or starve to-morrow are sadly familiar examples of the latter. Ignorance of the values men in general put upon the commodities to be exchanged, and inability to withhold one's commodity from exchange so long as the other

party can withhold his, make a real freedom of choice in contracting impossible.

How Social or Market Price is Determined.

It remains to show how the value schedules of a large number of persons—each value schedule being dependent upon the two factors, absolute utility and quantity of each commodity already in the possession of the maker of the schedule—tend to determine a social or market price for each commodity, not monopolized, which is generally bought and sold. Suppose, for example, that ten men come together in a certain place, on a certain day, and that each has a horse to sell at not less than the following prices:

A	will	sell at	$150.00
B	"	"	145.00
C	"	"	140.00
D	"	"	135.00
E	"	"	130.00
F	"	"	125.00
G	"	"	120.00
H	"	"	115.00
I	"	"	110.00
J	"	"	105.00

Suppose, also, that there were present at the same time and place ten possible buyers of horses who will pay not more than the following prices:

M	will	pay	$102.00
N	"	"	107.00
O	"	"	112.00
P	"	"	117.00
Q	"	"	122.00
R	"	"	127.00
S	"	"	132.00
T	"	"	137.00
U	"	"	142.00
V	"	"	147.00

If there were practically no difference in the horses (an assumption that would hold true in the case of stocks, cereals, and manufactured goods of staple grades and varieties), one of the following courses would probably be pursued: either those who were most eager to sell and those most eager to buy would first find each other out and

V	would	buy of	J
U	"	"	I
T	"	"	H
S	"	"	G
R	"	"	F

leaving the sixth man, Q, who offers only $122, unable to buy of E, who asks $130; or, by what is termed the "higgling of the market," it would soon be found out that a certain price would make the actual buyers and sellers equal in number, and all the trades possible would be made at that price. In the latter case, if horses were sold at above $127, there would be only four persons ready to buy, and at least five ready to sell; and if the price were put below $125, there would be only four sellers and at least five buyers; but, if somewhere between $125 and $127, there would be five buyers and five sellers, the same number as in the first case. By this last method of determining market price, the report would be that horses sold at, say, $126, surely at a figure between $125 and $127. By the first method, also, if each pair of traders succeeded in dividing the advantage of their trade evenly between them, each trade would take place at $126. For example, V, who buys of J, and would have paid $147, gains $21 by buying at $126, and J, who would have sold at $105, gains an equal amount by selling at $126. So, likewise, with each pair in turn, and when we come to R, who will pay only $127, and F, who will not sell for less than $125, there is only a possible two dollars to gain by the trade, even if it all goes to one man. Therefore, by the first method of trading, as well as by the second, the last trade must have been between $125 and

$127. Some political economists call R a marginal buyer and F a marginal seller, one being very near the point of refusing to buy, and the other almost ready to refuse to sell. It will be found that market price always lies between the very narrow limits of marginal buyers' prices and marginal sellers' prices.

EXERCISES—1. Try to make a diagram of the buyers and sellers of horses used as an illustration on page 205, which will show in graphic form:

a. All the successful buyers' prices.

b. All the successful sellers' prices.

c. All the unsuccessful buyers' prices.

d. All the unsuccessful sellers' prices.

e. How much each successful buyer and seller gains if all horses sold at $126.

f. How much each man who failed to sell or buy would have lost by buying or selling at $126.

2. Assign a different series of sellers' prices from those given, leaving the buyers' prices as they are, and find out the market price that would be established.

3. Change the buyers' prices, leaving the sellers' prices as they are, and find out the market price that would be established.

4. Change both sets of prices and work out the market price established under those conditions.

The intending buyers who would not pay so much and the intending sellers who would not sell so low would be compelled to wait for another day, one group waiting for a higher price and the other group waiting for a lower price.

Thus it is seen that a meeting of persons wishing to buy at various prices, with other persons wishing to sell at various prices, would tend, on the first day of meeting, to establish a social or market price, at which the greatest possible number of sales could take place. If the meeting of intending buyers and sellers of horses should continue on succeeding days, the presence of a large number of men willing to sell at, or below,

the market price of the day before, and the presence of only a small number of men willing to pay as high as that market price, would tend to lower the first day's market price. On the other hand, the presence of a large number of men ready to pay higher, and of a small number of men ready to sell so low, would tend to raise the first day's market price.

A formal answer to the second question asked on page 193 may now be given. Individuals arrange value schedules based upon the absolute utilities of commodities and the amounts of them already available for the satisfaction of their wants. So far as the different commodities of these schedules are definitely compared with each other, the comparison is made in money, that is, they are given different prices. Groups of possible buyers of one commodity, with their different buyers' prices, are in daily contact with groups of possible sellers, with their different sellers' prices. A market price results, which, in general, allows the maximum number of sales. Whenever new buyers or new sellers, in relatively great numbers, appear with new buyers' and sellers' prices, or the old buyers and sellers materially change their prices, a new market price may be formed, which may later, in its turn, give way to another market price. The social or market prices of different commodities determine the amount of one commodity that may be exchanged for a definite amount of another commodity in a certain market at a certain time.

Different Commodities Have Different Markets. The size of the market which within certain limits "fixes the market price" of retail groceries, fruits, etc., may be only a few stores with the people who trade in them. Sometimes one retail store with its customers forms such a market. On the other hand, the market for wheat is composed of buyers and sellers in the whole civilized world, and they are kept in electric touch with each other by means of the telegraph and cable. So sensitive is this market to the influence of the quantity factor in the valuation of persons, that an abundant rain, after a drouth in a great wheat raising region, lowers the prices mar-

ginal buyers will offer for wheat to be delivered about the time the crop affected by the rain can be marketed. These lowered buyers' prices may lower the market price of wheat all over the world.

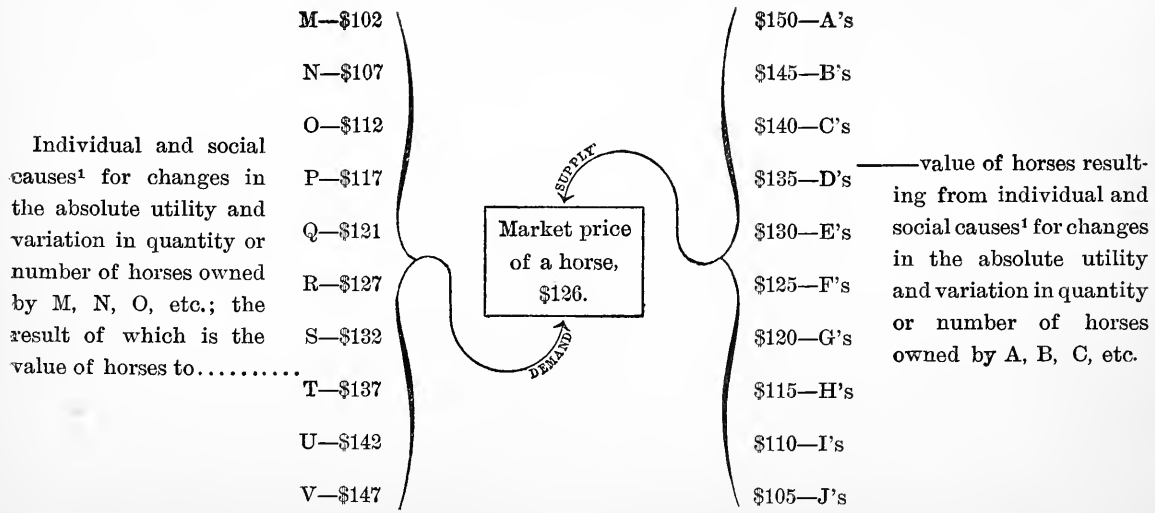
Demand and Supply. It is commonly said that the market price of anything depends upon demand and supply. These words are indeed convenient names for very complex groups of conditions and forces on each side of any given contract. The danger is that we shall come to use these words with a show of knowledge when we are in reality profoundly ignorant about the facts behind either of them. For example, demand and supply might be said to have fixed the market price of horses in the illustration we have used, but what was really present on each side was a group of active-minded men, about each of whom we know very little. Suppose those who had horses to sell are represented on the supply side of the following diagram, and that, in general, an increase of pressure—supply—on this side tends to lower the market price of horses.

Suppose, also, that intending buyers are placed on the demand side, and increase here tends to raise the market price of horses.

In this case, supply is furnished by ten men, who have various degrees of eagerness to dispose of their horses. The eagerness of each man to sell, or his valuation of his horse in terms of money, is dependent upon the absolute utility of horses to him and the number of them already at his disposal.

On the demand side, are ten other men whose valuations have been made up in a similar way.

Now, anything that changes the horse valuation of any one of these twenty men, especially the ones whom we have called marginal, tends to change the social valuation or market price of horses,—market price being social valuation expressed in money. But the cause for any one person's valuation comes, as we have seen, through a change in its absolute utility to him or through a change of quantity. Therefore, it



[1]For example, custom about bicycles, automobiles, horseback riding, etc.; corporate and political action about horses for street railways, for the transportation of army supplies, etc.; ethical and religious or humane ideals about the treatment of animals, etc.

is evident that anything which changes either one of these factors in the valuation of one or more men on the supply side, or the demand side, tends to change the market price.

Furthermore, the causes for any person's valuation may be individual, such as affect him alone; or social, such as affect many, perhaps all, at the same time.

Demand and supply, then, are, by themselves, of little real use in explaining why the market price of horses, or of anything else, goes up or down. To say that the market price of anything is dependent upon demand and supply is no more an explanation of changes in price than the statement that the mercury of a thermometer is dependent upon heat and cold is an explanation of the temperature of a given place. True, the mercury does go up and down with variations in temperature, but the causes of change in the temperature at a given place lie back of the mere words heat and cold, among the complex phenomena of radiation, direction of the wind, degree of moisture of the atmosphere, etc. So the real forces in determining market price are back of the mere words demand and supply, among the complex conditions and causes that are affecting the valuations of one or more individuals. These words are easily used, but to trace the forces back of demand and supply, to their sources, is the work of trained men and women.

An attempt to answer the following questions may aid some to see the truth of these statements a little more clearly:

1. In respect to the market price of horses in the illustration given, think out some change in market price on the day described which might have resulted from a change in one man's valuation.

2. Think out some change in the utility of horses to him, or in the number of them already possessed by him, which might have caused this difference in his valuation. This may be called an individual cause for change in market price.

3. Think out similarly some social causes which might have made the market price much different from what it was.

4. Think of all the buyers of horses in your section of the country as taking the places of the ten buyers in the illustration, and of all the sellers of horses, the places of the ten sellers. What would be the tendency of each of the following causes upon the market price of horses? State also, for each cause, whether it is individual or social.

a. Good bicycles fall in price from one hundred dollars to thirty-five dollars. Give reasons.

b. Suppose people who "are somebody" give it out that only those who own an automobile can go in their "set." Give reasons.

c. The belief becomes general that bicycle riding is unhealthful. Explain.

d. A horse breeder dies, and his horses are sold at auction. Explain.

e. A horse epidemic breaks out which carries away half the horses. Explain.

f. A tax of ten dollars is levied on every horse in the country. Explain.

g. War breaks out, and the government buys 10,000 horses for the army. Explain.

h. A great railway is to be built, and the contractors buy up 10,000 mules.

i. A dozen rich men fall ill, and their doctors prescribe daily horseback riding.

5. Show that the diagram may be so modified as to illustrate the directions from which influences stream in that tend to raise and lower the market price of wheat, corn, gold and silver bullion, any form of wealth. Are there marginal buyers and sellers in each of these cases?

6. Show that it may be so modified as to illustrate similarly for the wages of carpenters, servant girls, or payment of any kind of service that is regularly sold.

7. Is the diagram given, where only twenty men are supposed to be concerned, more or less simple than a diagram for wheat? for gold and silver? for wages? Why?

8. Does the fact that you see the directions from which influences come to raise and lower market price give you full information about the number and force of these influences? Why?

9. The market price of labor is high in America. Is this fact fully explained when it is said demand and supply make it so? Why?

10. Mention some causes which men give for high wages. Are these the only causes? Do any of these assigned causes conflict? Which is right? Do you understand the whole matter?

11. A given weight of gold will buy much more silver now, the world over, than twenty years ago. Is it enough to say that demand and supply have caused this? Why?

12. Show that the utility of these metals as money is increased and decreased for individuals by the action of governments.

13. If, in some way, any article comes to serve additional wants for people in general, how would these persons tend to value the article? Explain.

14. Would the reverse be true? Explain.

15. Show that society, through legislation, can make so many individuals change their valuations of a commodity as to change its market value or price. Give examples.

16. Show that society, through fashion, can do the same thing. Give examples.

17. Show that monopolists of all sorts, men who "corner the market," and others who in any way control the quantity of a commodity, can so change the quantity of it accessible to individuals that their valuations of it are raised or lowered, within limits, at the will of the monopolists.

18. Make out a list of the commodities used in your family the quantity of which is supposed to be monopolized.

19. What bearing does the fact of a monopoly have upon the method described above, of determining market price?

20. If a commodity is fully monopolized, so that the quantity of it accessible to the public is perfectly controlled, how high a price can the public be made to pay for it? Explain.

21. Ask the above question about different specific commodities, as gas, city water, fare on street railways, beef, pianos, services of a doctor, boots and shoes, land, etc.

22. What alternative do the people have if the market price is put higher and higher? What might happen if all articles of food were monopolized?

23. If you were a monopolist, in absolute control of a commodity, and wished to "make" as much as possible out of it, show that it might be best for you to keep the price low.

24. Criticize this formula for such a purpose:

x = cost of one unit of commodity.

y = selling price or market price of one unit of commodity.

n = number sold.

$(y-x)n$ = maximum.

If the difference between y and x is very small, as it would be if the selling price were low, how can $(y-x)n$ be greater than $(y-x)n$ when the difference between y and x is great? Give example of this.

25. Which are of more effect in causing changes in market price—social causes or individual causes? Why?

26. Give several examples from industrial history of great changes in the market price. What were some of the causes in each case?

27. Why do men disagree as to the effect of tariffs on wages and prices in the United States? Are you ready to set them right? Why?

28. Why do men disagree as to the causes of the fall in market prices of silver in the past twenty years? Are you ready to set them right? Are you satisfied merely to say that demand and supply have caused these falling prices? Why?

The Significance of This Chapter. The fundamental importance of this necessarily somewhat technical discussion of utility, value, price, and contracts, appears when it is remembered that in the civilized world of to-day, as never before, men are satisfying their wants by producing utilities of service

and wealth for other people, in return for which they must receive, if they are to get them at all, the services and wealth which are to satisfy their own wants.

Its importance should stand out in still clearer relief when it is further remembered that all these exchanges are now made less at customary and traditional rates and more by contracts which are subject only to the economic forces acting at the time upon the two contracting parties than has been true in past centuries. Upon the valuations of the two parties to the contract and upon the resultants of many similar valuations as expressed in market prices, depend in general all contracts between wage-worker and employer for wages, between borrower and lender for interest, between tenant and landlord for rent, and between buyer and seller for purchase price. Upon one side or the other of one or more of these contracts every adult person continually finds himself. Upon the issue of his contracts depend, to a great degree, his own economic welfare and that of those dependent upon him. All industrial struggles center about the two elements of value—utility and quantity of the commodity concerned. Any person or combination of persons that can better the quality of a commodity or decrease the quantity of it accessible to others tends thereby to increase its value to others. From this point of view, trade unions, trusts, monopolies, legislation, strikes, etc., may be profitably studied.

Chapter II

PRODUCTION

Man and His Home. Man has his home on the outside of a huge ball, rotating, revolving, and careering through infinite space, accompanied by its companion spheres. From the surface of this ball, from a relatively thin layer of air about it, from a few holes dug a little way below the surface, from the fish he takes from its waters, and from the various forms of energy which stream toward him from out the infinite star-depths, must come whatever is to minister to his wants through the medium of his senses. Whatever earth and the universe of suns besides contribute of wild fruits, shelter of forests, ozone of atmosphere, inspiration of cloud, and warmth of sunlight is so much utility furnished him gratuitously. All other satisfactions of want which he is to obtain must be secured through his own modification of his environment, or by a modification of himself. Only the blindness of man kept him for unknown ages ignorant of the fact that the seemingly barren surface of the earth and the empty space about him were stored with possibilities of food, clothing, shelter, and motion for his use so soon as he should open his eyes to their presence.

Slowly has he learned how to make for himself tools, with which to strike down at a distance animals suitable for food, and with which also to protect himself against men and other animals. Some unknown Prometheus among men taught him the utility of fire. With what ignorance of chemistry and the laws of life and growth has he scratched the surface of the earth and scattered seed for scanty harvests! How painfully and slowly has he, through all the ages until our own, crawled from place to place on foot, or mounted on

some beast scarcely stronger than himself! All that man has wrought in developing the quality and infinite variety of his articles of food, dress, and shelter; all the services that he has learned how to perform; all the knowledge he has gained about his environment, himself, his origin, and his probable destiny, all these achievements and more are included in the complete story of man's efforts to satisfy his wants directly from nature, or by some modification of the materials and endowment furnished him by nature. From the objective and economic points of view, all that man has achieved, from the age when he wielded only rude stone implements and lived, soul and body, in caves, to the present moment, when he, like Jove, makes the universe his home and literally holds the thunderbolt in his hand, has been done by him to satisfy the impulses and cravings of his own developing nature—to produce actual or potential utility.

The primary elements in satisfaction of want are man and his natural environment, man and that-which-is-not-man. To produce, in an economic sense, is so to modify environment by human effort as to make it more satisfactory to man.

Formulæ of Production.

The term natural resources will be used here as the equivalent of environment and it must be remembered that both materials and forces are included. Many writers also use the word land in this broad sense. Some important differences in the conditions of production may be shown by modifications of the equation given in Part I.

1. Man + natural resources = utility. Expressed entirely in words this equation might read as follows: man uses natural resources to satisfy his want. This is the simplest possible form of production. Man has always used the sunlight to give himself warmth, and wild fruits to satisfy his hunger. A case where man puts forth more effort than in the above acts would be that of a savage who scales a cliff, or climbs a tree, for the eggs and young of birds. Still, the most difficult forms of production, according to this formula, are

little more than mere appropriation of nature's bounties. Even the most primitive races of men do not, as a rule, satisfy their wants so directly. Sticks of special forms and stones of certain shapes with which to strike down animals, two stones, one hollowed and one rounded, for crushing grain, a bow and arrows with which to strike a blow at a distance, snares for unwary birds, and thongs of rawhide and ropes of twisted grasses with which to subdue and harness animals, are familiar illustrations of articles which even primitive man has fashioned from the materials furnished by nature, not because these articles of themselves satisfied his wants, but because by their aid he could procure more food, clothing, shelter, means of adornment, and culture. All goods desired for the immediate satisfaction of want, we may call consumption goods, or goods of the first order.[1] The goods desired because, by their aid, more consumption goods can be obtained, may be called goods of the second order. Goods desired because, by their aid, goods of the second order may be secured, may be called goods of the third order, and so on. Man has combined his own efforts with natural resources to produce tools and machinery, machines to make machines, and still other machines to make machine-making machinery, in order that, by the aid of different forms of this third and derivative factor in production, commonly called capital, he might use his energies upon natural resources to better effect, in the production of consumption goods. From the sharpened stick to the steam-driven gang plough, from the distaff to the modern factory, from the canoe and the two-wheeled ox-cart to the modern steamship and the transcontinental railway, man has invented, discovered, developed, and accumulated tools, machinery, buildings, appliances, chemical formulæ, and libraries of human experience, that he might wield all these things as instruments in his assaults upon nature for a greater variety and quantity of consumption goods.

[1] Marshall, *Principles of Economics*, vol I, p. 115.

For most of the production in the world since man became man, the following formula must, therefore, be substituted for the first:

2. Man + capital + natural resources = utility. Man uses capital to help him to modify nature so as to satisfy his wants.

But even this formula needs further modification in order to express the whole truth. An isolated man, like Crusoe before Friday came, might satisfy his wants according to this formula. A man in a civilized land, or anywhere in a community of his fellows, can rarely do so. Even among savages there are fairly well defined usages in accordance with which men hunt, wage war, pasture flocks, and reap scanty harvests of grain. In England and the United States, as we have already seen, some of the social conditions which have regulated the productive activities of men have been variously formulated by kings, lords, gilds, parliaments, congresses, voluntary agreements of many sorts, and even international treaties. Man is a social animal, and can not live to himself if he would. Groups of men, through usage, custom, public opinion, ethical ideals, and law, have always had a great influence over individual industries. In short, society has always devised some form of control and compulsion of the individual who tries to make his will the supreme law. A third formula is, therefore, necessary.

3. Society + man + capital + natural resources = utility. In subordination to the usages, customs, and laws of the country in which he lives, man uses capital to help him to modify nature so as to satisfy his wants.

Mention has been made, in Part II, of some of the political changes that have taken place in the social regulations of production in England and the United States. Many of these regulations have not proved permanent. Unless the opinions of American voters remain the same from year to year, these regulations may change annually in some of our states. Taking the country as a whole, they will, without a doubt, become in a decade greatly different from what they are now.

Suggestive Questions. 1. Name some of the most important bills now proposed and laws already enacted in your state which have directly to do with the ways by which individuals get a living.

2. What restrictions do they place upon individuals? Why?

3. What special privileges do they give natural and legal persons which make it easier for them to get a living? Why?

4. In case special privileges are given, is it supposed that the persons to whom they are given will perform for society, in return, certain services, or produce certain utilities? How is this side of the contract kept? Why? Is the contract a fair one to both sides? How do you know?

5. Look up some of the recent national laws and decisions of the United States Supreme Court[1] which bear directly upon the methods by which persons are getting a living. Are any of them of much importance to you? Why?

Variation in the Kind and Quantity of Utilities. If we look at the formula, society + man + capital + natural resources = utility, as an equation, it is evident at once that changes in any one, or more, of the four factors in the first member of the equation must tend to produce similar changes in the second member. In general it may be said that utilities are increased in number and improved in quality by one or more of the following causes: by wiser and more justly administered social regulations; by everything that improves the physique, adds to the mental equipment, raises the moral standards, and enlists more completely the productive energies of man; by every substitution of a more efficient for a less efficient form of capital; and by the discovery and appropriation of richer and more varied natural resources. An intelligent comparison of one period of the world with another, or a comparison of one period of a single country with another period, in all these particulars, would not fail to reveal much concerning the

[1] Stimson. Read also Kelley, *The United States Supreme Court and the Utah Eight-Hour Law*—"The American Journal of Sociology," July, 1898.

relative quantities of goods enjoyed by the people of the two periods. Compared in this way, the economic superiority of the England of to-day over the England of Norman times, and the superiority of the United States of the present time over the thirteen colonies, is quickly apparent. The facts given in Part II afford a partial basis for such comparisons.

[NOTE.—It will be seen later that, on account of the great difference between utility and value, the statement, suggested above, that the people of a single business or nation will be economically well off provided they succeed in producing a great quantity of utilities, needs modification. While literally true for the world, it is not necessarily true for a nation and still less so for a single business. So far as any business or nation disposes of a surplus of its products for other products, it wants as great a value as possible, not merely an abundance of utility.

Of course, the only actor in all production is man—man as grouped in all sorts of ways and called in our formula society; man as undertaker and directed worker of each special business; man as an owner of capital; man as an owner of natural resources. Now, it makes a great deal of difference to men what results they expect from their efforts. Therefore, the energies of men, their courage, perseverance, honesty, and even their physical strength, considered as producers, depend, to a great degree, upon the size of their share in the product of industry—in other words, upon what pay they get for their various efforts. It is this problem of sharing the product which is called by economic writers "distribution." To a discussion of distribution, a separate chapter will be given, but mention is made of it here in order to suggest the fact that no one can fully discuss or understand how the production of utilities increases and diminishes without taking into account also the facts of their division among the producers—distribution. These two processes continually react one upon the other.]

From the economic point of view, a fundamentally desirable result is an increasing per capita production of consumption goods for the world, for each country, and usually for each business.

Suggestive Questions.

1. Compare China with the United States, with a view to arriving at some conclusion as to the per capita production of utilities in the two countries. A diagram similar to the following may be used:

CONDITIONS AND FACTORS AFFECTING PRODUCTION.	UNITED STATES.	CHINA.	RESULTS UPON THE UTILITIES PRODUCED ARE IN FAVOR OF:
Usages, customs, and laws of society, which affect production of utility.			
Physique, intelligence, moral standards, energy, courage, skill, etc., of man as a producer.			
Variety and efficiency of various forms of capital.			
Variety, abundance, and distribution of natural resources.			

Fill all these spaces with the best facts you can choose, and, in the last column, state the result of each comparison as being, in your opinion, favorable to China or to the United States.

When the diagram is as complete as you can make it, study the last column, and try to come to a conclusion as to which country, on the whole, can produce more consumption goods per person.

a. Did you have any difficulty in filling in the diagram? Why?

b. Could you fill it out better after you had studied the facts about these two countries for a longer time?

c. Do some of your results in the last column seem favorable to one country and some to the other? Can you come to any final conclusion as to the comparative productivity of the two countries without knowing how much one country has the advantage of the other in the various particulars? Why? Would it take hard study to answer accurately the question of how much advantage either possesses? Is it worth an attempt?

2. Try to make a similar diagram, (*a*) to compare the United States of to-day with the American colonies, (*b*) to compare the United States with England, (*c*) with Germany, (*d*) with America at the time of Columbus.

3. Give illustrations of capital in the form of tools and machinery which have been thrown aside for more efficient capital.

4. What is likely to be the fate of the steam locomotive? Why?

5. Give some illustration of a business that has failed because its competitors used better tools and machinery.

6. Give illustrations of businesses which have failed through the fault of the undertakers.

7. Name enterprises that have been given up because the particular natural resource needed gave out.

8. Name enterprises which have been started when a natural resource was found in a new field.

9. Give illustrations of the effects of inventions upon the production of several articles.

10. Show the effect of some of the discoveries in chemistry upon production.

11. Give similar illustrations for physics, geology, biology, physiology, meteorology.

12. Suppose two machines, one very simple and the other complex and heavy, produce in a given time the same amount of consumption goods; which, other things being equal, is the better machine? Why? Give examples of this.

13. Suppose men could have gotten the same amount of consumption goods with one hundredth part of the tools and machinery they now use; would they have had all this machinery? Why?

14. Is an abundance of capital in the form of railroads, manufactories, machinery, etc., a sure sign that the people are having their wants well supplied? Why?

15. Give illustrations of natural resources which have been withdrawn from use in production because the owner was not satisfied with the return—his share in distribution.

16. Give similar cases for capital.

17. Give cases of men who have been inefficient in production because of failure to get what seemed to them a sufficient reward for their efforts. Why, under such circumstances, do they not give up trying to produce at all?

18. Show that society sometimes withdraws its coöperation from a business enterprise because it does not get a sufficient share of the product.

19. Give illustrations which are as nearly opposite those given in answers 15-18 as possible.

20. What do you think of the business ability of a man who keeps a pair of horses thin and weak from lack of food, in order to save in his bill for feed? Why?

21. What do you think of a society that treats any of its human producers in a similar way?

22. How can it be avoided? Is the question a simple one?

Chapter III

SHARING THE PRODUCT—DISTRIBUTION

Taxes, Profits, Wages, Rent, Interest.

In the equation, society + man + capital + natural resources = utility, it might be thought at first that man appears but once. The truth is, however, as we have just seen, that he is concerned with every factor of each member of the equation. It is man's want or impulse to act which sets the whole process of production in motion. There could be no such thing as a utility, a want-satisfying quality, without some one to feel the want. Furthermore, man is the only actor in the productive process. He and his fellows make up society, he puts forth his individual energies, he possesses rights of property over natural resources and capital. Therefore, the problem of distribution seeks an answer to the question: How is it determined what amount of all that is produced shall go to men as social beings, as they exercise the functions of the society factor in production; what amount to men as owners of the natural resources used; what amount to men as owners of the capital required; and what amount to the men actually engaged with hand and brain in the productive process? The common names of these respective shares are as follows: society receives taxes; owners of natural resources, rent; owners of capital, interest; man as the independent manager of the business, profits; and man as a subordinate worker, wages.

World Income and National Income or Dividend.

The total amount of goods produced in the world during a year may be called the world's income, or dividend, for the year. In a similar way, there is a national dividend for each nation and a separate

dividend for each business enterprise, whether that of a man working alone, or that of a corporation. Taking one year with another, it is evident that private persons, corporations, nations, and the world must be restricted in the satisfaction of their wants by the amounts of goods produced, by their various annual dividends.

In Part I, page 44, this dividend or income of the world was referred to as a stream from which all persons take for their own consumption, and to which they return the goods which they themselves produce. It is from this stream of goods, then, that the various shares in distribution may be thought of as being taken.

Taxes. Taxes seem a grievous burden to most people, but, rightly viewed, justly laid, economically collected, honestly and wisely expended, they would appear as that part of a national, state, or municipal dividend which satisfies man's want better when socially consumed than when individually consumed. In the United States, the national dividend, and consequently the incomes of men, are subject to the levies of such a large number of taxing bodies, acting so little in harmony, and with so little thorough knowledge of the effect of their actions upon the persons taxed, that the whole system, or lack of it, is in a chaotic state.

Suggestive Questions and Exercises. 1. Ask your father, or some owner of real estate, for one of his tax bills.

a. How many kinds of taxes are mentioned on the bill? What are they?

b. Ask the one from whom you get the bill whether or not he makes any other compulsory payments for public purposes. If so, what are they?

c. Compute his regular yearly compulsory payments for public purposes, and divide the sum by the market price of the property upon which the pay-

ments are levied. What is the result for each dollar of such property?

d. Divide the total tax for each purpose by the total property on which it was levied. What are the results for each dollar of such property?

e. Arrange these results for each dollar of property (per cents) in a column, from greatest to lowest.

f. Do you know who determined what these per cents should be, how the property was valued or "assessed," who collected the taxes, what was done with the money, how accounts for it are rendered, etc.?

g. Are these things worth inquiring about?

2. Select one or more of the different kinds of tax found as above, and ask:

a. Who ordered this particular tax collected?

b. Who assessed the property on which it was levied, and by whose order?

c. Who sets a legal limit to the per cent of this particular tax that can be levied?

d. Who made out the tax bill?

e. Who collected the tax?

f. Who took the tax for safe keeping?

g. Upon whose order was the tax expended?

h. Who made a report to the tax payer to tell him what had been done with his money?

3. The following exercise[1] is also suggested, either for the class or for one or two students who can give it special time.

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[1] A modification of a plan in use by Professor Frederick R. Clow, of Oshkosh, Wisconsin. See *The Study of Municipal Finances*—"Quarterly Journal of Economics," vol. X.

SCHEDULE OF ORDINARY AND EXTRAORDINARY RECEIPTS AND EXPENDITURES OF SOME POLITICAL SOCIETY—VILLAGE, TOWN, CITY, COUNTY, OR STATE—FOR ONE YEAR.

General Functions of the Political Society Studied.	Functions of the Political Society in More Detail.	Expenditures.		Receipts.	
		Ordinary.	Extraordinary.	Ordinary.	Extraordinary.
Maintenance of its Government, Keeping Up its Machinery.	Legislative Department				
	General Executive Department				
	Legal Department				
	Financial Department				
	Elections				
	Other Such Purposes				
	Totals				
Care of Dependents.	Criminals				
	Poor				
	Defective				
	Sick				
	Other Similar Persons				
	Totals				
Public Safety.	Courts				
	Police				
	Militia				
	Fire-protection				
	Inspection of Foods, Buildings, etc.				
	Regulation of Dangerous Pursuits				
	Sanitary Measures				
	Other Protective Functions				
	Totals				
Public Convenience.	Bridges				
	Streets				
	Parks				
	Lighting and Care of Above				
	Sewers				
	Removing Garbage				
	Other Similar Functions				
	Totals				
Culture and Information Functions.	Schools				
	Libraries				
	Museums				
	Public Celebrations				
	Documents				
	Monuments, etc				
	Totals				
"Quasi-Private" Business Enterprises.	Water Works				
	Gas and Electric Light				
	Street Railways				
	Markets, Wharves, Ferries, etc				
	Cemeteries, etc				
	Totals				
Other Functions.					
	Totals				
Totals.					
Balances.					

4. Try to imagine the condition of the people in the political society studied if all the functions as above mentioned should be suddenly stopped.

5. Are taxes an unmixed evil? Why?

6. Why do people so often think taxation a sort of legal robbery?

Profits. Man, in his rôle of manager, is, in one sense, the most important person in a given case of production. While society can not be avoided, and man as owner of natural resources, of capital, and of productive energy is necessary to the success of any business, still, man as manager, director, or undertaker, interprets his own wants, and sets about satisfying them in a certain order, if he is a self-sufficing producer; and, if he is not a self-sufficing producer, he interprets the wants of other men, and sets in motion various productive processes, in order that he may have in his possession goods that his fellows value highly enough to be willing to give him satisfactory amounts of other goods in exchange for them. If he misjudges the valuations of society, and produces something which can not be disposed of for money to pay the various expenses he has incurred and leave something besides, the undertaker suffers. If, on the other hand, he has a product which consumers value so highly that they will pay him more than enough to cover all the expenses he has incurred in its production, the surplus legally belongs, in accordance with existing laws, to the undertaker. This surplus is his profit, his reward for the risk, responsibility, and effort in undertaking and carrying through the productive process. The undertaker is a special kind of workman, and profit is a special form of wages paid to him by the consumers of his product.

Suggestive Questions. 1. In what ways is the word "profits" used in common business speech?

2. Why is it well to pick out one meaning of the word which we will all accept?

3. Give, in your own words, a true illustration of profits in actual business.

4. Give examples of cases where profits have been enormous.

5. Show that a man who receives immense profits may not necessarily make the general public poorer than it was before. Explain.

6. Show that in such a case the public may be even better off after having paid the man his profits, than not to have paid him anything and at the same time failed of enjoying the results of his efforts. Might society be still better off if he performed the same services for less pay?

7. What difference is there between a man who sees valuable goods in existence, and sets to work to get the ownership of those goods away from others and into his own hands, and the man who sets productive processes in motion, and thereby causes the production of a great new stream of goods from which he takes many for himself? Explain and illustrate by actual examples.

8. Which man is the nearer right? Why?

Wages. In general, the worker for wages does not share in the risk of an enterprise. He makes a contract with an employer to spend a certain amount of time in adding utility to materials owned by the employer, for which effort he is to receive a certain payment in money or goods. This payment is often made to him before the employer has disposed of the utility produced to traders or to consumers; commonly, also, before the material, as a whole, has been put in the form of a completed consumption commodity. Whether the commodity, when completed, proves valuable to society or not, the wage-worker usually has his wages. But wages are not, as a rule, paid before the receiver of them has created utility for the employer. Hence the employer, in paying wages, does not, as a rule, do more than give his workers consumption goods, less in value than the utilities previously created for him by them. If employer and employed are regarded as coöperators in a productive enterprise,

both of whom expect to be rewarded for their efforts out of the final value of the completed product, the employer in fact buys out the gradually accumulating shares of the employed in the final product for successive cash payments—wages.

Of course, what has just been said applies especially to directed workers in the production of wealth,—potential utilities,—rather than in the production of services,—actual utilities. By the necessity of their nature, services must be consumed as soon as produced. Therefore, the goods which service producers get in return for their own products are clearly payments for completed consumption commodities. As a rule, the terms, salary and fee, are used more commonly than wages to describe the rewards received by producers of services.

Suggestive Questions.

1. Compare persons who receive a salary with those whose pay is commonly called wages, in respect to losses suffered in pay when occasionally absent from work.

2. Compare, in length and definiteness, the contract for employment made by a salaried person with that of a wage-worker.

3. In which case is the personal relationship between employer and employed the closer? Give examples.

4. In respect to the upper and lower limits of wages:

   a. Can wage-earners, as a class, continually receive less wages than will keep them and their families alive? Why?

   b. As business is now organized, can they habitually take for their own use the whole stream of consumption goods produced by their aid? Why?

   c. What other groups of persons have claims on this product? Why will not some group surrender habitually its claim to a share in the product?

d. Did you ever hear of a strike where the strikers did not seem to realize that there was any limit to the wages that could be paid them? Give some account of it.

5. Within the maximum and minimum limits of wages suggested above, what does the social or market value of different grades of labor have to do with the amount of wage given to a single person? Explain.

6. How are the individual valuations of a certain kind of labor, out of which the market valuation is made up, affected by the absolute utility and quantity of labor? Explain.

Rent. We have seen that natural resources are a primary requisite in production. We have also seen that civilized societies protect men in the exclusive possession—full ownership—of tillage lands, forests, mines, building sites, water power, etc. For purposes of turning machinery, one waterfall is better than another; for mining purposes, one mine surpasses another; for raising wheat, two tracts of land differ; for residence purposes, and for town sites, men prefer one tract of land to another. By virtue, therefore, of the superiority of the natural resources owned by some persons over natural resources of similar kinds owned by others, those who own the best natural resources for the production of goods, grain, timber, ores, coal, factories, homes, etc., have an advantage over other persons in the production of these goods. The advantage which comes to a man by virtue of his ownership of a superior natural resource, whether he gets this advantage by utilizing it himself or by selling its use to some one else, is rent. In cases where there is public ownership of relatively good natural resources, rent may be collected by the public. The fact that one piece of land is superior to another for a certain purpose, makes men who desire land for that purpose willing to pay something for the use of the better piece. The fact that land is variously owned determines to whom this payment goes.

The "Unearned Increment." Many persons, especially socialists and the followers of Henry George, point out that a natural resource often becomes more valuable for residence and productive purposes, not from any improvements which the owners themselves put upon their property, but because of the mere increase in numbers of the people, with all their needs and productive enterprises, near this particular natural resource. Owing to its scarcity for particular purposes, it increases in value, and this increase in value (increment) is "unearned" by the owner. It was really caused by the society which has grown larger and more complex near it. Their conclusion is that the increase in value, the "unearned increment," belongs not to the individual owner, but to society.

From this point of view, then, there is one direct line of study and thinking which will lead toward a knowledge of what single-taxers and socialists think ought to be done.

The following extended extract from the Report of the Bureau of Labor Statistics, Illinois, for 1894, explains itself in this connection:

ECONOMIC HISTORY OF A QUARTER ACRE IN CHICAGO

"Probably the most striking illustration ever made of the pecuniary advantages of social growth which attach to land well situated to command public benefits, was presented at a dinner of the Chicago Real Estate Board, in November, 1893, by F. R. Chandler, a real estate expert of long experience, whose integrity and conservative judgment give to his statements exceptional importance. It consisted of a table showing the economic history, year by year, from 1830 to 1894, of the most valuable quarter acre of land in the city of Chicago. This table is a genuine contribution to economic data.

"Mr. Chandler's preparatory labors were arduous and conscientious. He first searched for the prices at which numerous valuable sites in the business center of the city had been sold since 1830; and though no single site had been transferred often enough to indicate its annual changes of value, the great mass of statistics which Mr. Chandler collected as to prices in the neighborhood of every lot that came

within the range of his examination, together with the prices of each such lot itself, enabled him to fairly estimate the land value of that neighborhood. By applying this method to several of the more valuable neighborhoods of the business section, and confirming his estimates by reference to public records, private archives, and market reports, he ascertained the different values at different times. Mr. Chandler then obtained the opinions of one hundred of the best posted real estate men in Chicago as to the most valuable quarter acre in the city. Preponderance of opinion settled upon the southwest corner of State and Madison streets, part of the school fund property controlled by the Board of Education. This had never been sold, but with the information he had already collected regarding the prices of neighboring property, Mr. Chandler was able to determine the value of the quarter acre in question for each year from 1830 to 1894. This is the property to which the table relates.

"But for the figures showing the number of improved average Illinois farms,[1] and the number of days' or years' work at unskilled labor[2] that would have been necessary each year to buy this quarter acre, the table on the opposite page is as Mr. Chandler constructed it, the barometrical changes referring of course to business conditions.

"Here we find this quarter acre of raw prairie land near the mouth of the Chicago River, worth, in 1830, when the population of Chicago numbered fifty people, but $20 in money, or 13⅓ days' unskilled labor. It would not then have exchanged for one one-hundredth part of an average Illinois farm of the present time. With population increasing and business promising, this quarter acre rose in value year by year until, in the boom of 1836, it was worth $25,000. At that time, it would have taken fifty-five years' unskilled labor to buy it, and it would have exchanged for twelve average Illinois farms of the present time. But the panic came in 1837, and this quarter acre fell to almost one-tenth of its boom value. Through-

[1]The average size of farms, 62.38 acres, and the average value, $32.87 per acre, are taken from the report of this Bureau [Labor Statistics, Illinois], for 1890, p. 257.

[2]Unskilled labor is estimated at $1.50 a day for each year of the period. Part of the time it was less, and part of the time more; but this sum will be recognized as fair for the purposes of the comparison.

Date.	Changes of Barometer.	Population of Chicago.	Annual increase per cent.	Value of quarter acre.	Annual increase per cent.	Annual decrease per cent.	Number of average Illinois farms at $2,050, necessary to buy the quarter acre.	Number of years' work at $1.50 a day and 300 days to the year, necessary to buy the quarter acre.
1830	Clearing	50	....	$20	....	....	0.009	†13.33
1831	Fair	100	100	22	10	....	0.011	†14.67
1832	War storm	200	100	30	40	....	0.015	†20
1833	Rising	350	75	50	67	....	0.024	†33.33
1834	Rising	2,000	467	200	300	....	0.098	†133.33
1835	Rising	3,265	60	5,000	2400	...	2.44	11.11
1836	Booming	3,820	17	25,000	400	....	12.2	55.56
1837	Panic	4,179	10	3,000	....	88	1.47	6.67
1838	Depression	4,000	—4	2,500	....	17	1.22	5.56
1839	Depression	4.200	5	2,000	...	20	0.97	4.44
1840	Depression	4,470	6	1,500	....	25	0.73	3.33
1841	Depression	5.000	12	1,250	....	17	0.61	2.78
1842	Depression	6,000	20	1,000	....	20	0.49	2.22
1843	Rising	7,589	25	1,100	10	....	0.54	2.44
1844	Rising	8,000	6	1,200	10	....	0.59	2.67
1845	Rising	12,088	50	5,000	20	....	2.44	11.11
1846	Booming	14.169	16	15,000	200	....	7.32	33.33
1847	Panic	16,859	18	12,000	....	20	5.85	26.67
1848	Showers of gold	20,023	25	13,000	9	....	6.34	28.89
1849	Mirage of wild cat	23,047	15	15,000	15	....	7.32	33.33
1850	Rising	28,269	22	17,500	17	....	8.54	38.89
1851	Rising	34,000	22	20,000	14	....	9.76	44.44
1852	Rising	38,754	14	25,000	25	....	12.2	55.56
1853	Rising	60,662	60	30,000	20	....	14.63	66.67
1854	Drought	65,872	9	35,000	17	....	17.07	77.78
1855	Buoyant	80,023	23	40,000	14	....	19.51	88.89
1856	Booming	84,113	5	45,000	12	....	21.95	100
1857	Panic	93,000	11	35,000	....	22	17.07	77.78
1858	Depression	91,000	—2	30,000	....	14	14.63	66.67
1859	Depression	95,000	4	29,000	....	3	14.15	64.44
1860	Depression	109,000	15	28,000	....	3	13.66	62.22
1861	Great war clouds	120,000	10	28,000	....	....	13.66	62.22
1862	Great war clouds	138,000	15	32,000	15	....	15.61	71.11
1863	Great war clouds	160,000	16	33,000	3	....	16.1	73.33
1864	Great war clouds	169.353	6	36,000	13	....	17.56	80
1865	Calm	178,900	6	45,000	25	....	21.95	100
1866	Rising	200,418	12	57,600	28	....	28.1	128
1867	Rising	220,000	10	65,000	12	....	31.71	144.44
1868	Rising	252,054	15	80,000	23	...	39.02	177.78
1869	Rising	272,043	8	90,000	12	....	43.9	200
1870	Rising	298,977	9	120,000	33	....	58.54	266.67
1871	Very hot	325,000	9	100,000	....	17	48.78	222.22
1872	Booming	367,396	13	125,000	25	....	60.73	277.78
1873	Panic	380,000	3	100,000	....	20	48.78	222.22
1874	Depression	395,408	4	95,000	....	5	46.39	211.11
1875	Depression	400,000	1	92,500	....	3	45.12	205.56
1876	Depression	407,661	2	90,000	....	3	43.9	200
1877	Depression	420,000	3	90,000	....	....	43.9	200
1878	Depression	436,731	4	95,000	5	....	46.39	211.14
1879	Gold rays	465,000	7	119,000	25	....	58.05	264.49
1880	Rising	503,298	8	130,000	10	....	63.41	288.81
1881	Rising	530,000	5	145,000	12	....	70.73	322.22
1882	Rising	560,693	6	175,000	21	....	85.37	388.89
1883	Rising	590,000	6	238,000	36	...	116.1	528.89
1884	Stormy	629,985	6	250,000	5	....	121.95	556.56
1885	Rising higher	700,000	11	275,000	10	....	134.15	611.11
1886	Rising higher	825,880	18	325,000	18	....	158.54	722.22
1887	Rising higher	850,000	3	*435,000	34	....	212.2	744.44
1888	Rising higher	875,500	3	600,000	38	....	292.2	1,333.33
1889	Rising higher	900,000	3	750,000	25	....	365.85	1,666.67
1890	Booming	1,098,570	22	900,000	20	....	439.02	2,000.
1891	Columbian sunshine overcomes panic	1,200,000	10	1,000,000	11	...	487.8	2,222.22
1892	Columbian sunshine overcomes panic	1,300,000	9	1,000,000	...	....	487.8	2,222.22
1893	Columbian sunshine overcomes panic	1,400.000	8	1,000,000	....	....	487.8	2,222.22
1894	.....	1,500,000	....	1,250,000	....	....	609.76	2,777.78

* Authority of Real Estate Board Valuation Committee.
† This represents the number of days at $1.50 a day necessary to buy the quarter acre

out the succeeding business depression, it continued to fall, until 1842, when it reached bottom at a value of $1,000, which was five times as much, however, as its value just before the boom began.

"With the return of better times in 1843, and an increase of population, the quarter acre began again, though timidly, to rise in value; but in 1845, with a largely increased population, it had risen to $5,000, and in 1846, in the second boom, to $15,000. The boom was followed as usual by a panic, and, notwithstanding an increase in population of eighteen per cent, the value of the quarter acre dropped to $12,000. The collapse of this boom, it will be observed, left the property at a value twelve times higher than the point to which it had dropped upon collapse of the previous boom.

"The gold discoveries and a continual growth in population revived the value slightly in 1848. From that time on, it rose rapidly to a culmination of $45,000—equal to twenty-one average Illinois farms of the present time, and one hundred years of one man's labor—in the boom year of 1856. The panic of 1857 at once brought it down to $35,000, and the succeeding period of hard times continued to reduce it until, in 1861, it was as low as $28,000. But, from this point, it steadily rose through the war and the brisk times that followed, and even through the period of the great fire, until 1872, when it was worth $125,000. Once more there came a panic and a depression, out of which this quarter acre emerged in 1878 with a value of $95,000—nearly four times its value on the crest of the first boom, six times its value on the crest of the second, and twice its value on the crest of the third.

"With the return of better times, in 1879, the value of the quarter acre sprang forward once more, and since that, through good times and bad, it has gone steadily on. In the boom year of 1890, it was worth $900,000. The next year it went up to $1,000,000, where it remained until 1894, when its value was estimated at $1,250,000.

"Six hundred average Illinois farms would not now exchange for that quarter acre of raw prairie land, and nearly 3,000 years of the labor of one man would be required to buy it. If, 500 years before the Christian era, some man had obtained employment at the equivalent of $1.50 a day, had, like some Wandering Jew, been preserved through all the vicissitudes of the centuries, had been miraculously sustained without expense for any of the necessaries or luxuries of life, had

done his work regularly from that day to this, 300 days in the year without losing a day, and had hoarded all his wages, his savings would not yet be enough to buy this quarter acre of prairie land at the mouth of the Chicago River."

In studying this problem of the "unearned increment" further, at least these questions should be continually in mind:

1. May a system of land owning, which might have worked well if established in a country from the beginning, work great injustice if quickly put in place of another centuries old?

2. Can this injustice be avoided by a slow process of substitution?

3. May the expected advantages to be secured be offset by disadvantages some of which are not yet apparent?

4. On the whole, are you sure the change should be made? Why?

5. If so, are you sure how it should be made? How?

Interest. All sorts of persons, from the boys and girls who put some of their few pennies into their "own bank," or a "real savings bank," instead of spending all for candy, marbles, or tops, up to the millionaire who buys shares in railroads, mining companies, wheat farms, canals, and factories, instead of spending all his income in fancy dress balls, entertainments, art works, travel, and retinues of servants, have the choice between immediate consumption of all the goods that come to them and postponement of consumption of a part or the whole of their income. From these unconsumed portions of thousands of incomes,—savings, they are often called,—come the funds which are loaned to others, and the great varieties of tools, machinery, buildings, and improvements of all sorts, which are called respectively money capital and vested capital.

Capital is borrowed from the owners for two purposes: first, that the one who borrows may, by its use, make his business more productive of utility; second, that the borrower

may have consumption goods now that he must otherwise wait for. In either case, the lender acts upon the advice that "a bird in the hand is worth two in the bush," and demands not only that goods equal in amount to those he lends shall be returned to him at some future time, but more goods. This excess in goods, which, in the opinion of lenders, makes future possession of a larger quantity equal to the present possession of a smaller quantity of goods, is interest.

But a great deal of capital is not thus loaned to others. Much is used by its owners in their own productive enterprises. Here again, the capitalist expects to get an excess of goods in the future over those he refrains from consuming now. In these cases, just as truly as in the cases where capital is loaned, the excess of future over present goods is interest.

The rate of interest on loans, which is the kind we hear most about, is subject to all those individual and social forces which we saw, on page 211, to be affecting the individual, and consequently the market price, of any commodity that is freely bought and sold. On the one hand, the rate cannot go permanently higher than borrowers for productive purposes (as this is the most important cause of borrowing) can get from their productive enterprises by the aid of the capital borrowed. On the other hand, the rate cannot go lower than the amount which will induce owners to postpone the control of their own goods from the present to some future time.

In ordinary loans, there is some possibility that the lender will lose his principal, and the rate is higher on this account. In what has been said, this possibility has not been considered, and the interest above defined would be pure interest.

Suggestive Questions. 1. Compare the rate of interest paid by the United States on bonds with that paid by a company formed to mine gold in the Klondike. Which is nearer pure interest? Why?

2. Give an illustration of a case where a farmer can "afford" to borrow capital.

3. Do the same for a physician, grocer, teamster, corporation.

4. Would men ever postpone consumption of some of their income if there were no possibility of getting interest on it? Explain.

5. How would the amount saved in the country, as a whole, under such circumstances, compare with the amount saved now? How do you know? Are you sure you are right?

6. Did you ever hear of a case where owners of capital have paid something for having it taken care of? Explain.

7. If this was a case of less future goods preferred to more present goods, was the deficiency negative interest? Explain.

8. Is the loan rate of interest different in different countries at the same time? Why?

9. Is it different in different parts of the same country at the same time? Why?

10. Do you know all about the causes which affect rates of interest?

Varieties of Ownership of the "Factors of Production."

The diagram on the next page suggests the great variety of ownership of the "factors of production" now existing. It will also help us to understand how the products of various enterprises are shared.

In the first case, line No. 1, which may be illustrated by a farmer who owns his own farm, stock, buildings, tools, and machinery, plans his own work and carries it on with his own hands, the problem of sharing the product of the business is just that of determining how much society will take in the form of taxes. All the rest belongs to him, and, although usually not so divided and named by him, is really composed of profits, rent, interest, and wages.

In the second case, the farmer has hired workmen. Taxes are determined as in the first case. How much of the value of the rest of the product goes to the hired workmen and how much to the farmer himself, is determined by bargain, a wage contract, between the two parties. If each party is primarily seeking his own advantage, the contract is determined by con-

	Social Control. (Legal.)	Managers.	Workmen.	Owners of Capital.	Owners of Natural Resources.
1.	Various political units.	One man.	The same man.	The same man.	The same man.
2.	"	One man.	Another man or men.	Same as manager.	Same as manager.
3.	"	One man.	Another man or men.	Another man.	The same man.
4.	"	One man.	Another man or men.	Another man.	Another man.
5.	"	Directors of a corporation.	Directors and stockholders.	The same.	The same.
6.	"	Directors of a corporation.	Other men.	Directors and stockholders.	The same.
7.	"	Directors of a corporation.	Other men.	Stockholders of another corporation.	The same.
8.	"	Directors of a corporation.	Other men.	Stockholders of another corporation.	Stockholders of another corporation.

siderations similar to those mentioned in Chapter I, Part III. Taking one year with another, it is evident that the farmer would not continue indefinitely to pay in wages more than the increase in the value of his product (either to use at home or to sell) resulting from the labor of those he hired. Whether he would be compelled to pay well up toward this increase in the value of his product due to hired labor, would depend upon the eagerness of men to sell their services to him. And this

eagerness of men to sell their services would depend largely upon their opportunities to produce independently, or sell their services to others.

In the third case, one man might own a farm and the stock and tools, a second man carry on the farm as manager, and a third man, or men, work for this manager as wage-workers. Here, as in the first two cases, the total value of the product places a limit to the rewards of all concerned. Taxes are theoretically determined by the voters. The manager must make two bargains instead of one, to determine how the value of the rest of the product shall be divided. He must make one bargain with the owner of the land and capital, and a second bargain with his hired men. The bargain with the hired men would evidently be determined by the same considerations as in the second case. The amounts the manager could continue to pay for the use of the natural resources and the capital would be limited by the increase in the value of the product at his disposal due to their help. More than this he could not regularly pay because, to work without capital and land under his own control, simply as a hired worker himself, would pay him better. Whether he would be forced to pay well up to this limit would depend upon the probable success of the owners in getting more value out of their property by using it themselves, or selling its use to some one other than this particular farmer.

The fourth case differs from the third, in the fact that there is a fourth separate party to be considered. If one man owned a farm and another stock and tools, which farm and equipment a third man used with the aid of hired men, this case would find an illustration. The case does not differ from the third except in the fact that the manager would need to make one bargain with the owner of land and another with the owner of capital. The amounts that all taken together could receive would depend upon the productivity of the enterprise; taxes would be determined in the same way as before; the manager would be limited in the amounts he could pay in

rent, interest, and wages to the increase in value of his product resulting respectively from land, capital, and labor; and the actual payments he could be compelled to make would approach these limits as the landlord, capitalist, and wage-worker found greater or less difficulty in disposing of what they had to sell.

The cases numbered from 5 to 8 present the same variations in ownership and possibilities for bargains, except that in them legal persons—corporations—each of which may be composed of many men and women, are substituted for the individuals—natural persons—of the first four cases. In these last cases, therefore, the number of persons concerned in the various bargains may be indefinitely large. For example, take the case of a railroad company that hires thousands of workers, borrows millions of dollars, leases thousands of miles of railway and thousands of cars from other companies. Here, also, taxes are within the power of voters, and managers make contracts with landlords, capitalists, and wage-workers for certain payments which, during a period of years, must all be paid out of the value of the product of the enterprise.

Summary of Conditions Affecting Bargains for Shares of Product.

All of this bargaining for shares in the products of business enterprises, after taxes have been deducted, is dependent upon the valuations made by the bargainers themselves and by the valuations of many others, which result in market values—called market prices when expressed in money. It is essential to remember, also, that individual values depend upon the two elements of absolute utility and quantity. The more imperative the human want that a utility tends to satisfy, and the less the quantity of the appropriate utility available, the higher the value of a unit of it. On the other hand, the less imperative the want and the greater the quantity of the appropriate utility, the less its unit value. These two elements may be briefly referred to as the quality and quantity elements of utility in value.

With this re-presentation of the elements of value in mind, note the following combinations of the factors in production as they affect the sharing of the product in a given industry.

I

Natural resources suitable for the purpose relatively abundant	Relatively small share of product.
Suitable capital relatively abundant	Relatively small share of product.
Laborers qualified for the work relatively scarce	Relatively large share of product.
Capable managers relatively many	Relatively small share of product.

II

Suitable natural resources relatively scarce	Relatively large share of product.
Suitable capital relatively abundant	Relatively small share of product.
Efficient workers relatively many	Relatively small share of product.
Capable managers relatively many	Relatively small share of product.

III

Suitable natural resources relatively abundant	Relatively small share of product.
Suitable capital relatively scarce	Relatively large share of product.
Efficient workers relatively plenty	Relatively small share of product.
Capable managers relatively many	Relatively small share of product.

IV

Suitable natural resources relatively abundant	Relatively small share of product.
Suitable capital relatively abundant	Relatively small share of product.
Efficient workers relatively many	Relatively small share of product.
Capable managers relatively few	Relatively large share of product.

Besides the above combinations, it is evident that there may be many more formed by any two of the factors being scarce relatively to the other two, and by any three being scarce relatively to the other one. How many of all these mathematically possible combinations we can find illustrations for in the actual business enterprises with which we are familiar is an interesting question.

Suggestive Questions.

1. What do you know about the rent of land in the busiest part of a town, or city?

2. Suppose you wished to raise various garden products, and that a sandy hillside, far from a town, was offered you for nothing, and an equal area of fertile land near the town for ten dollars per acre each year; which would you take? Why?

3. How are general managers of railways paid in comparison with section hands? Why?

4. How are college presidents paid in comparison with country school teachers? Why?

5. How are skilled workers paid in comparison with unskilled? Why?

6. Do you know of any cases of highly trained doctors, lawyers, teachers, engineers, or hand-workers of any kind, who can barely get a living? Why?

7. What is the tendency of the increase of electric street-car lines from large cities and towns to suburbs, towards raising or lowering the yearly rental and the price of good residence property within a mile or two of the business centers? Why?

8. What is the effect of the same lines upon the rental and price of residence property in the suburbs? Why?

9. What has been the tendency of rents of agricultural property in England and New England during the last twenty-five years? Why?

10. Do you know of any cases where natural resources suitable for a certain kind of product are growing scarce? Illustrate.

11. Of any cases where such natural resources, though still actually abundant, are made scarce to the general public through the monopoly ownership of a few men? Illustrate.

12. Show that these two kinds of scarcity give the owners the same kind of power in sharing the product.

13. Do you know of any cases where laborers suitable for a certain kind of work have been made purposely scarce? Illustrate. Why?

14. Have any cases occurred to you in reading and answering the above questions which can not be explained fully by the various combinations suggested above which affect bargains for shares in the product? If so, state the cases and your difficulties.

15. How may rent, interest, wages, and profits all be higher in one country than in another?

How a Poor Living may Result from an Abundance of Utility.

At first, it would seem that only two things were necessary to make all connected with a business well off so far as the satisfaction of their wants is concerned. These two things are: (1) that there should be a large product in goods, and (2) that there should be a fair division of this product among all connected with the enterprise.

If the goods produced by a single person or business were various enough to satisfy all the wants of the persons concerned, the fulfilment of the two conditions above would suffice. During the colonial days in the United States, and during the period of the Home System of industry in England, we have seen that this state of things was more nearly realized than is true to-day. The more food people raised, the more clothing they made, and the more services they rendered each other in their homes, the more comfortable they were if they were fairly taxed.

But now those concerned in a special business find only a few of their wants, at the most, satisfied by their own product. The bulk of this product is for sale, and the satisfaction of their other wants is limited by the goods which can be bought with the price received. Therefore, the real product that is to be shared is not the more or less abundant goods produced, but the market value of those goods. Now, market value, it will be remembered, is lowered by an unusual, or excessive, quantity of any commodity. Therefore, it is not only a possible, but a very common, experience for a group of workers to do their very best to produce a large amount of their special commodity in the hope of an abundant reward, only to find

this product valued so low in the market that they can buy very little with the price obtained. It, therefore, is not only possible, but it very frequently happens, that so much of a certain commodity is offered for sale at a certain time, that it has very little market value. Fruit growers often sell the scanty crop of one year for more money than they get for the abundant crop of the year before. Raisers of wheat and other cereals have also had similar experiences. Manufacturers, miners, wage-laborers, and professional men have likewise often found themselves unable to sell their wares and services for much money because these products were so abundant.

Not mere Quantity of Goods but a Valuable Product Desired.

It is, therefore, plain that the economic purpose of every productive enterprise is fundamentally to create utilities that will be valuable—the more valuable the product the greater possible reward for all concerned. The interests of those who furnish natural resources, capital, management, and ordinary labor power, are identical to this extent—to make the total product as valuable as possible for a given expenditure of the factors of production. But, in every special enterprise, the interests of those who furnish these factors, if all are different men or groups of men, are directly opposed to each other when it comes to sharing this value.

Are the Interests of Capitalists and Laborers Identical?

The statement is often made in public print that there ought to be no conflicts between employers and employees, because one can not produce without the other, and, therefore, their interests are identical. The above discussion shows us just how far this is true. Using the word "capitalist" now in the broad sense of landlord, manager, and owner of capital in a true sense—which three functions the capitalistic employer often unites in himself—and "laborer" as contrasted with him, the interests of the capitalist and the laborer are identical in desiring a total product of maximum value. Their interests are diametrically opposed to each other when that value is divided.

The National Dividend. From the point of view of the people of a nation taken as a whole, so far as they produce all they use and do not dispose of a surplus to other nations for goods in return, the desirable thing economically is that just as many and various goods as possible be produced. The greater the quantities and varieties of goods the more wants of the people can be satisfied, and to a greater degree. Make the national dividend just as large as possible, and, if there is a fair division of the goods, everybody will be economically as well off as possible.

But if the nation produces certain things in excess of its own wants, and tries to exchange them with other nations for their goods, it is economically beneficial to the first nation to have its products not only great in quantity, but valuable. If the United States, for example, sells food products in Europe for European goods, it is beneficial to have those food products valuable, and the goods we want in exchange less valuable, so that we may get many for few.

The World Dividend. From the standpoint of the world, it is desirable that goods of just as many kinds as possible be produced in the greatest possible quantities consistent with a wise adjustment of these quantities to human needs. That one good should be exceptionally valuable in comparison with others would be to some personal or group advantage, but not to the advantage of all. What the world wants economically is that there should be enough goods produced per capita so that everybody may have a great variety of wants well satisfied. The world welfare, economically considered, varies directly with the abundance and variety of goods.

National welfare, also, so far as the nation is self-sufficing, varies in the same way. But, so far as a nation engages in international trade, its welfare varies with the value of the goods it has to sell, and not necessarily with their abundance and variety.

The individual productive enterprise, likewise, so far as those concerned with it use their own product, seeks only an

abundant and various product. But, so far as it depends upon an exchange of its own product for other products, it desires its own product to be as valuable as possible.

Mere abundance and variety of goods, therefore, tend toward social welfare. Individual advantage over the rest of society varies with the value of the commodity owned by the individual. Therefore, as the value of a unit tends to increase with scarcity, there is a great temptation for men and corporations to make the goods in their possession valuable through limitation of quantity, rather than by an improvement in quality.

The Classes of Persons upon Whom the Economic Welfare of the Individual Depends. From the foregoing discussion of the principles upon which products are shared, the following general statement will be seen to be true. So far as a man bargains the services and wealth which he produces with the rest of the world in return for other services and forms of wealth, four classes of persons affect the result:

1. Himself. He can not receive goods from others unless he has goods to give in exchange.

2. Others who are producing the same kind of commodity as his. He may produce a commodity which ordinarily men feel a great need for, but, if so many other persons are engaged in the production of the same commodity that all he can produce of it is valued very lightly by the rest of the world, he can get but few of the goods of others in return.

3. Persons who are producing the goods he is to get in exchange for his own. Upon their skill and faithfulness in producing goods suited to his need depends the ultimate satisfaction of his want.

4. Persons who are producing the same kinds of goods as those he actually gets in exchange for his own. If few persons, relatively to the needs of men, are engaged in the production of the goods he desires, they may be valued so highly that he can get but few of them for his own product. On the contrary, they may be produced in such abundance that their

value is low, and his product may be exchanged for many of them.

Unless, therefore, a man can foretell not only his own product but also the products of those who are doing the same kind of work as himself, and the product of all those engaged in producing the goods he hopes to get in exchange for his own, the degree of satisfaction that his efforts will secure for himself is uncertain.

Two facts stand out as one studies the details of distribution.

1. In these modern days, when almost the whole output of each productive enterprise is not consumed by its producer, but sold for what it will bring, not merely maximum quantities of goods, but goods of maximum value are desired. The value of the product limits the total rewards for the producers as a whole.

2. The share of this total value that each group of producers gets for itself is largely decided by contracts which are affected by all the individual and social causes which affect the market price of any commodity.

Chapter IV

Some Considerations Which Affect Production and Distribution

Some Uses of Money. It should never be forgotten that money as a medium of exchange is simply an instrument. Man has devised it, as he has tools and machinery, simply because, by its use, he thinks he can secure more consumption goods than without it. By the use of money, man divides into two parts the process of exchanging the commodity he has for those he wants. After he has received money for his own commodity, he may seek the commodities he desires in any market at any time. Money, therefore, enables man to separate the two parts of his exchange by a few hours, days, or even years of time. It also relieves him of the necessity of finding men with various desired commodities which they are willing to exchange for his. The fact that the silver and gold of which metallic money is largely composed are desired as consumption goods in the form of plate, gilding, jewelry, etc., must not be permitted to disguise the fact of the purely representative character of these metals when used as money.

Money also enables a man to compare all commodities with each other quickly, by means of their prices. Goods having the same market price are often exchanged directly one for the other without the use of money as a medium of exchange. Money thus used, or the name of some unit of money thus used, is often called a common denominator, or name, of values.

Changes in the Value of Money. The value of gold compared with silver and the values of both in comparison with all other commodities vary in the markets of the world, just as other commodities vary in value with reference to each other, in

accordance with their quality and quantity elements, their effective utilities. Let some great new social need for either metal be discovered, or created by legislation, and the value of that metal tends to rise. The reverse is also true. Increase in quantity tends to lower the value of money metals as it does of wheat, and conversely. Mere coinage of either metal has comparatively little to do with raising or lowering the value of that metal in comparison with the other, or in comparison with other commodities. This is true because coinage of itself is only an official weighing and stamping of metal to the end that each coin may be known to contain a certain amount of metal of a certain degree of fineness. But the legislation of a single nation, and to a greater degree the legislation of many nations, may greatly affect the value of one metal compared to another, and of both compared to the other commodities of the world. This is true because legislation decides whether or not gold shall have, in addition to its various other utilities to individuals and to society, the further social utility of a legal tender medium of exchange. Legislation decides the same question for silver. Thus, by legislation, the quantity of a metal may be changed relatively to the wants it is allowed to help satisfy. This tends to change its value.

Persons Affected by General Changes in Prices.

This possibility of change in the value of money in comparison with all other commodities, whether caused by legislation or independent of it, is a fact of profound economic importance. Such a change in the value of money would be the same thing as a rise or fall in the prices of all things except the money metals—what is called general rise or fall of prices. If a man who receives money for his own product expends it immediately for other goods, a general rise or fall in prices makes little difference to him. If prices are low, he sells at a low price, but also buys much with little money. If prices are high, he sells for a good price, but also finds this larger sum able to buy no more goods than he bought

with little money. Suppose, however, that a seller postponed for a few years the purchase of goods with the money obtained for his own product. Now, a general rise in prices means loss to him, because he sold at a low price and must buy at a high price. On the other hand, a general fall in prices means gain to him, because he sold at a high price and can buy at a low price. Every person who saves a part of his income, puts by something for a rainy day, must be affected favorably or unfavorably by a general rise or fall in prices. Great changes in general prices, that is, in the value of money, are sometimes detrimental, sometimes beneficial, to the great class of men who allow considerable time to pass between their sales and purchases. In other words, their real share in the distribution of consumption goods is larger or smaller as general prices rise and fall.

Another great group of men who are also affected by changes in the value of money is composed of debtors and creditors. It is the custom for a man who borrows to agree to pay back at some future time the same number of dollars that he borrows. If, therefore, a great change in the value of those dollars takes place between the time of borrowing and repayment he must return in reality a greater or less quantity of goods than he borrowed. If prices have fallen, the dollars he pays back will buy much more than the dollars he borrowed, and conversely. Not only are individual debtors and creditors affected by changes in money values, but all salaried men whose salaries are permanent, all savings banks, insurance companies, loan associations, institutions with endowments, great business enterprises that have issued bonds, and, finally, all towns, cities, counties, and states that are in debt, and the nation itself, are likewise affected by changes in the general purchasing power of money. Every taxpayer, whether an individual debtor or creditor, or not, is therefore affected to the amount of his responsibility for the various debts of the political units in which he lives, by changes in the value of money.

Employers, also, who pay certain sums for raw materials, rent, interest, and wages, in order to produce a certain commodity that can not be marketed until some time in the future, are often subject to disheartening losses because the price of their product has fallen between the time when they began to produce and the time they offer their product for sale. During a period of falling prices, therefore, managers are often timid and reluctant to undertake the making of a commodity that men stand greatly in need of, lest its falling price should involve them in loss. On the other hand, a period of rising prices often brings gains to an employer which encourage him to the point of recklessness and unsound business methods.

From the point of view, therefore, of all persons who allow some time to pass between purchase and sale, of all debtors and creditors, and of all production which demands considerable time before outlay can be covered by sale of the product, great changes in the value of money are undesirable. Consequently, all political parties, whether committed to gold monometallism, silver monometallism, national bimetallism, or international bimetallism, are practically agreed upon this point. Their differences of opinion emerge only when they begin to discuss the special measures by which a greater degree of stability in the value of money may be obtained.

Important Facts. The maximum number of persons in a democratic country ought to see at least the following facts clearly:

1. What men want ultimately is not money, but consumption goods.

2. Money *per se* is merely representative of other goods.

3. The value of money is subject to change, both because the quantity of the metals of which it is composed changes relatively to the quantities of other goods in the world, and also because nations, through legislation, arbitrarily increase and decrease the number of human wants that money materials already in existence may for the time satisfy.

4. Such changes in value directly benefit or injure all persons who allow considerable time to pass between the acts of selling and buying, all debtors and creditors, both private and public, and all business enterprises where the element of time in production is an important factor.

5. Justice demands legislation which will secure the maximum stability in the value of money, in comparison with values in general.

6. The money question is one which often tends to place one man on one side and another on the other side for purely personal and business reasons.

7. There has been in recent years, and may for a long time be, much honest difference of opinion about the immediate and permanent effects of various monetary policies.

Suggestive Questions.

1. Is capital often borrowed for longer periods than those for which wage and salary contracts are made? Give examples.

2. Give examples of long leases for natural resources.

3. In cases where rent and interest at fixed rates have been promised for a period of years by some business, and meanwhile the value of money increases, that is, general prices go down:

   a. Is the fixed annual money rent and the fixed annual interest worth more or less in goods to the landlord and capitalist than when the contracts were made? Why?

   b. Is it harder or easier for the business to pay these rent and interest charges out of the value of the product than when prices were higher? Give illustrations of these two cases.

   c. When general prices fall in such cases, show that the proportionate shares of landlords, capitalists, undertakers, and wage-earners, in the product of particular businesses, are changed.

4. Suppose long time leases and fixed interest charges for a term of years are as in 3, and suppose, also, a fall in the value

of money—a rise in general prices—occurs, answer *a*, *b*, *c* for these conditions.

5. Suppose statesmen should think it wise, on the whole, to pass some laws which tend to change the value of money; should contracts already made be subject to these changes, or only new contracts? Why?

6. Show that a wide range of facts must be considered before one can master the money question.

7. Is it possible to make such laws about money that justice will be done to all? Explain.

The Law of Diminishing Returns. If a man has a vegetable garden in good cultivation, and sets out to raise, next year, twice as much of everything as he raised this year, he may possibly do it by doubling the fertilizer and doubling his care of it with spade, hoe, and garden hose. If he succeeds in getting double the return for double the effort and expense, the return per unit of outlay is the same as before. But suppose he tries a second time to double his garden products from the same garden, by once more doubling his outlay. The return is possibly a little larger than before, but when the total product is divided by the total outlay the quotient has probably become less than at first. The proportional return has diminished.

Farmers are familiar with this fact. It also becomes harder and harder, by the old methods, to get a ton of coal out of a deepening mine, and forests and fisheries sometimes give out altogether.

The truth at the bottom of these common experiences is called the law of diminishing returns, and has been stated as follows: "An increase in the capital and labor applied in the cultivation of land, causes, in general, a less than proportionate increase in the amount of produce raised, unless it happens to coincide with an improvement in the arts of agriculture."[1]

In this statement of the law, nothing is said about what may happen if the increase of capital and labor "coincides

[1]Marshall, *Principles of Economics*, vol. I, p. 206.

with an improvement in the arts of agriculture." Thus far in this country, it may be said, in general, that this coincidence has been frequent, and, besides, new lands have constantly been taken up, so that our food and raw material supply have cost us, in general, less and less effort per unit of product instead of more and more. The experience of countries like China, however, has been different from ours, and the law states a fact of great importance in its bearing upon possible limitations of quantity of various goods, and their consequent increase in value.

To emphasize the unprogressive nature of industries which the law supposes, in order to be literally true, the following statement of it may be made:

If an increasing number of equally efficient men use methods and capital of the same general sort upon the same piece of land to produce goods of the same kinds, a time will come when the return per capita will begin to diminish in quantity.

Suggestive Questions.

1. Are all the hypotheses of this law ever true?
2. Are they true for farming in one generation compared with the preceding?
3. Illustrate for both answers.
4. Show that farmers act upon the truth contained in the law.
5. Show that the law is as true of lumbering as of farming.
6. Show that it is true of mining; of fishing. Give illustrations in the last three cases.
7. Does this law mean that in any country, or in the world as a whole, if population continues to increase, an increasing per cent of the total population must necessarily devote themselves to the production of food and raw materials? Why?
8. If there were not a fact as the basis of the law, show that a large city could be fed indefinitely from the products of a single farm.
9. Does the law mean that a point is ever reached when a farm can not be made to produce an extra bushel of wheat or barrel of potatoes? Explain.

10. Why is truck farming carried on near towns and cities?

11. If the land is good for wheat, why not raise wheat?

12. Show the relation between the law of diminishing returns and the fact of rent.

13. Starting from the raw material, does a manufactured product cost as much human effort now as formerly? Suppose the proportionate share of effort required to make the machinery is added, what will be your answer?

14. If the raw materials of manufacture should cost more and more effort, and the manufacturing processes should cost less and less effort, would the total cost of manufactured goods rise or fall? Why?

15. In what sense can there be said to be a law of increasing returns in manufacture?

Are There Too Many of Us? Closely connected with the fact of absolute limitation upon the natural resources of the world, and with the fact also of possible decreased productivity in proportion to effort, of any particular natural resource, is the question of numbers of men. Malthus saw only two alternatives for the people of any nation, and finally for the world. One of these was a voluntary limitation upon the number of children that should be born. The other was increase in numbers until the per capita product was so reduced that the most unfortunate were cut off by hunger, pestilence, and war. It is an historical fact that numbers have been kept lower than they otherwise would have been by both of these methods. Among the most intelligent and provident people it has now become more a conviction than formerly that it is the right of every child born into the world to have a reasonable opportunity of living his life in decent comfort.

The children of the most ignorant and inefficient of our people too often have no chance to earn an honest living except by selling their unskilled labor power for productive purposes. As the number of such unskilled workers is very large, the share of the value of the product that the individual worker has been able to get by contract is small. The curse of

the poor man is his poverty. He is unable to get a high wage because there are so many of him for the unskilled tasks, and he has no efficiency for other tasks. On the other hand, he is unable to make himself efficient because he gets such a low wage that he can barely keep life itself. However the question of population as a whole may be answered, it is certainly true that there are now too many of the unskilled workers for their own economic good, so long as they have to sell their services in a competitive labor market. How those that are born may become more efficient, and how the number of births may be restricted by moral action to those who will have a chance to live an honest, complete, human life, are two problems which stare the world in the face.

Slavery, Self-Employment, Coöperation, Etc.

As has already been suggested, the conditions under which men work affect not only the amount and quality of their product, but also the process of dividing the product. Perhaps the truth in the above would be stated better by saying that the manner of dividing the product is itself an important condition which variously affects the activity and efficiency of workers, and, consequently, affects favorably or unfavorably the product to be divided. The process of creating and the process of dividing the product act and react on each other. In the table on the opposite page,[1] each student should fill out the blank spaces for himself.

Suggestive Questions.

1. Is self-employment possible to the extent it was one hundred years ago? Why?

2. What is the precise difference between profit-sharing and coöperation?

3. If profit-sharing and coöperation result in a larger per capita product in goods, why will this not necessarily result in a larger per capita value?

4. Suppose an employer deceives his employees about the amount of the product for his own gain, how will the dis-

[1]Adapted from one devised by Professor H. C. Adams, in an economic syllabus for the students of the University of Michigan.

Under	The Workman Has		
	1. Civil rights? 2. Political rights? 3. Pay, how determined? 4. Property in product?	1. What interest in quantity of work? 2. What interest in quality of work? 3. What care for material?	1. Estimates of systems from point of view of product? 2. From point of view of worker?
Slavery.			
Serfdom.			
Ordinary Wages System.			
Piece Wages System.			
Profit-sharing.			
Coöperation.			
Self-employment.			

covery of his deceit affect the future success of the profit-sharing enterprise? Why?

5. If the employees think he is deceiving them while he is not, what will be the effect upon the success of the enterprise? Why?

6. What would be the result if the coöperators in a business enterprise were not honest with each other?

7. If they were all honest but suspicious, each of the other, and of their managers?

8. What are some of the requisites of success in profit-sharing and coöperation?

9. Show whether or not profit-sharing and coöperative enterprises seek the economic welfare of persons not engaged in these enterprises.

10. Show that they may hinder the economic success of persons not so united.

Trade-Combinations and Monopolies. At least two phases of the present forms of large-scale production, trade combinations, department stores, trusts, monopolies, etc., should be seen by every one: first, most of these enterprises have made it possible by economies of various kinds—better methods, better machinery, mere bulk of business under one management, lessening number of men required for a given amount of business, etc.—to produce goods of various kinds more cheaply than was possible before. Generally speaking, this result is desirable. What the world needs is more goods per man, not fewer. That the per capita production of the means to satisfy human want shall increase year by year for all the workers in the world is, so far as it goes, greatly to be desired.

Second, when a given commodity becomes monopolized, the managers of the monopoly not only have it in their power to produce a given unit of the product with less effort per worker, but they also have the power of making the article scarce to consumers, and thus raise its value to them. How high the value to consumers may be raised by keeping the article scarce in the markets depends upon the kind of want the commodity is fitted to satisfy and the power of consumers to substitute some other commodity for it. Monopolists, therefore, have the power to keep the value of their product higher than is necessary to give them fair returns for their productive effort. How to secure for consumers in general more of the benefit of cheapened production made possible by combination, rather than how to

destroy the combinations themselves, is the problem before a truly progressive society.

Suggestive Questions. 1. Suppose a department store does the business that was formerly done by ten separate stores:

a. How would the ground rent of the one large business compare with the total rents of the ten small businesses? Why?

b. Compare in the same way cubic space needed.

c. Cost for heating, lighting, etc.

d. Number of cashiers wanted.

e. Economies in buying, in transportation, etc.

f. Stocks of goods necessary to keep on hand.

g. Wasted time of workers.

2. What classes of people are harmed by department stores?

3. Are printers harmed by the introduction of type-setting machines? Is society harmed?

4. What has been the effect of adverse legislation upon department stores and machinery? Why?

5. What has been the effect of similar efforts against the consolidation of railways? Why?

6. What legislation respecting trade combinations is necessary? Why?

7. Which is more important, general welfare, or the welfare of a small group?

8. How could corporations, trade combinations, and monopolies exist without the making and enforcement of laws, contracts, rights of private property, etc.?

9. Is it unjust for society to claim for general use a share of the benefits which persons, both natural and legal, gain through the agency of society? Illustrate.

Labor Organizations. The most common form of labor organization in England and the United States is the trade union, which Mr. Sidney Webb defines as follows: "A trade union, as we understand the term, is a continuous association of wage-earners for the purpose of maintaining or improving the conditions of their employment." There are many points

of dissimilarity between a trade union and a medieval craft gild, of which the former is often thought to be an outgrowth. On this point, also, the authority just quoted gives no uncertain evidence: "The powers and duties of the medieval gild have, in fact, been broken up and dispersed. The friendly society and the trade union, the capitalist syndicate and the employers' association, the factory inspector and the poor law relieving officer, the school board visitor and the municipal officers who look after adulteration and inspect our weights and measures—all these persons and institutions might, with equal justice, be put forward as the successors of the craft gild."[1]

The trade union consists only of wage-earners, while the craft gild was made up of owners of land and capital, managers, and wage-workers; the trade union consists of wage-earners in the same occupation, not only of one town but of many towns, while the typical craft gild was usually confined to the industries of a single town; the trade unions have gained political power but slowly, while, from the first, members of gilds were influential citizens of their towns and finally became politically dominant.

Within recent years, as the solidarity of the interests of great employers has grown greater, there has been a marked tendency toward a parallel concentration of labor organizations. Illustrations of this tendency are the organizations already mentioned: the Knights of Labor, the American Federation of Labor, and the American Railway Union. The last of these antagonized the existing trade unions somewhat, and has now taken the form of the Social Democracy, a new political party.

One fundamental function of labor organizations has been performed in connection with the wage contract. An individual wage-earner is often not the equal of his prospective employer in knowledge of the value of his service to production, and is usually unable to withhold his services from con-

[1] *History of Trade-Unionism*, pp. 17, 18.

tract very long, because he and his family would then suffer from hunger. In knowledge and in power to refrain from the bargain, therefore, the single wage-worker is often not the equal of a large employer, and may consequently be made to accept an unfavorable wage contract. A combination of a large number of workers in the occupation may make the highest intelligence of any member of the union common property, and, by helping each other, they can withhold their services from a wage contract for a longer time than is possible to a worker acting alone. Thus, by what is called collective bargaining, wage-workers have sometimes secured a larger share of the total product of an enterprise, and more favorable conditions and hours of employment than would otherwise have been secured.

Another very common function in unions is their benefit function. By means of accumulated funds, by organization for mutual help, and by strengthening the ties of human brotherhood between their members, the sick, the unfortunate, and the unemployed in trade unions are greatly aided.

Again, trade unions have been and are highly educational. Of English unions it is said: "The student of Democracy is always deploring the narrow range of observation and experiment afforded by the brief histories of the few modern republican states. To him, the trade union world offers the century-long experience of a thousand self-governing working-class communities, with unrestricted capacity for adaptation and change. The innumerable variations in the structure of these free democracies, the complexities and divergencies of their constitutions, their elaborate devices for preserving a due balance of power between the executive and the members, the relation of their central to their local governments, their financial checks and counter checks, their use of the Mass Meeting, the Council of Delegates, the Ballot, the Initiative, and the Referendum, alike in the appointment of officers, executive government, the decision of policy, and the enactment of laws—in short, their prolonged trial of the best-

known machinery of representative government, and their frequent invention of new forms and devices for the better administration of their little republics,—all afford unrivalled material for generalizations full of significance to the philosopher and to the statesman."[1] If the record of their experiences is thus valuable to the philosopher and to the statesman, it must be clear that to the trade union members themselves the same experiences must all along have been highly educational.

In one important particular, however, trade unions have been powerless, and must continue so. So long as employers can go out of business at will, trade unions can not, by collective bargaining, continue to secure for wage-workers so much of the total value of the product as to leave nothing for the manager, the owner of capital, and the owner of land. The wages which can be paid permanently in any business must always be considerably less than the total value of the product. Some wage-workers think the question as to the amount of their wages is dependent only upon the employer's will. Within certain limits, this is sometimes true, but, generally speaking, unless trade unions can help the business enterprises with which they are connected to increase continually the total value of the product, there is a maximum limit to the wages which the strongest trade union can secure for its members.

The Eight-Hour Day.[2] The widespread movement for a general eight-hour day for wage-earners gains much of its strength from a growing appreciation by many people of all classes that leisure is necessary for men that they may live a true human life. We have seen that sunlight and fresh air, and the sight of clouds and flowers, of green turf and trees, of lake and river and ocean, tend to satisfy real wants of man, and, therefore, possess utility for him. The same is true of social intercourse with his fellows, of the sight of noble build-

[1] Webb and Webb, pp. 475, 476.

[2] Rae, *Eight Hours for Work*—1894, The Macmillan Co., New York.

ings and fine pictures, and of the opportunity to read from books, which are now accessible to all through public libraries. If a man has no time to appropriate these manifold utilities that are within his reach, he fails to have important groups of wants satisfied that might be satisfied with no increase in his daily wage. Such consumption is of that social sort which, by enriching one man's life, does not make another's poorer. The eight-hour day movement, therefore, is a concrete expression of a growing demand that wage-earners shall have the opportunity to enjoy the utilities that are within their grasp.

We may also look at the movement from the side of production. Most employers at once ask the question—can my employees produce as much in eight hours as in ten, or twelve? In all businesses where this question can be answered in the affirmative, there can be no valid objection to a reduction in hours. In businesses where a negative answer must be given, the problem to be solved may be stated in this form: Are the various classes of persons concerned willing to sacrifice something from the value of their immediate product for the sake of being able, with greater leisure, to enjoy more keenly the various opportunities for satisfaction which are already possible to them?

In cases where a shorter day results in a lessened product, there is also the question of deciding upon whom the loss will fall, whether upon all the groups of persons concerned in the enterprise in due proportion, or upon some one group unduly.

From the point of view of both production and consumption at once, it may be said that, if a general reduction in the hours of work results in a general per capita reduction of the value of the product, there must inevitably be less per capita to consume.

A Word about the Tariff Question.

American interferences with the trade between citizens of the United States and the citizens of other countries have, as we have already seen, a long ancestral line in similar restrictions imposed by the colonies upon intercolonial trade, by Parliament upon English trade

with the rest of the world, by medieval towns upon intertown trade, and by gilds upon the trade of persons who were not gild members. These restrictions upon private trade and contract have, at their best, had the sincere motive of seeking the welfare of the whole group which imposed them. At their worst, they have been intended for the gain of some at the expense of others. Even when honestly intended, their remote effect upon the general welfare has often and often been far different from what was expected. It, therefore, seems necessary that every intelligent person should be able to answer for himself many questions similar to the following before he considers himself well informed upon the tariff question.

1. What is the necessity at present of any restriction upon the international trade of the United States?

2. Are there any business enterprises which would be ruined by a sudden abolition of all tariffs? Why?

3. What is the precise difference between a tariff for revenue and a protective tariff?

4. How does a protective tariff affect the total production of goods in a country which imposes it?

5. How does it affect the total value of the national product?

6. How does it affect the distribution of the national product, or income?

7. What is the number of persons engaged in industries that are protected compared with those engaged in other industries?

8. Are wages in the protected industries high because wages in other industries are high, or vice versa, or for neither reason?

9. Would our industries ever have become diversified without a protective tariff? Give reasons.

10. Are industries in the newer parts of our own country becoming diversified without a protective tariff between states? Illustrate.

11. Is this argument sound: We are prosperous, we have had a protective tariff, therefore our prosperity is due to the tariff? Give reasons.

12. If it is wise to protect some infant industries, must they always be protected? When is the protection to be withdrawn? What are the practical difficulties in the way of withdrawing such protection?

13. May a person oppose a tariff for economic reasons, and support it for political reasons? Illustrate.

14. May the converse be true? Illustrate. In these cases what will be the resultant opinion?

15. What is the effect upon business of making the tariff question a political issue once in four years?

16. How can this be avoided?

17. Are the economic policies of other countries subject to such political changes as are frequent in the United States? Give illustrations.

18. Does a tariff give a country an increasing, or even a steady, revenue in times of war and emergency? Why?

19. Do men pay tariff dues in proportion to their ability to pay? Illustrate.

20. Is the tariff question a simple one? Give reasons.

21. Is political economy mainly a study of the tariff question? Explain.

22. Show that the immediate and remote results of a tariff bill are not always equally beneficial. Illustrate.

23. What are the expenses of collecting tariff duties in proportion to the revenues obtained? Why?

Direct Compulsory Contributions for Social Purposes. Important as the question of the tariff is to the people of the United States, both from the point of view of taxation and because of the effects of various tariff measures upon politics and business interests, the so-called direct taxes of states, cities, counties, towns, villages, school districts, park districts, sanitary districts, etc., are much more important to the ordinary citizen. For example, the average annual per capita amount of the duties

on imports, from 1884 to 1893 inclusive, was $3.35. The school tax alone in many local districts often far exceeds this figure, and the total of local taxes per capita is sometimes several times this amount.[1] Especially is this true if to taxes proper be added what are called by writers on finance, fees and special assessments. The total annual public expenditure of some cities reaches at times fifteen and even twenty dollars per capita. These three contributions, taxes, fees, and special assessments, are all compulsory under certain circumstances, and are collected by direct authority from the taxing power —local, state, or national. Professor Seligman defines them as follows:

"A fee is a compulsory contribution to defray the total or partial cost of each recurring service undertaken by the government in the public interest, but conferring a special advantage on the fee-payer.

"A special assessment is a compulsory contribution paid once and for all to defray the cost of a specific improvement to property undertaken in the public interest, and levied by the government in proportion to the special benefits accruing to the property owner.

"A tax is a compulsory contribution from the individual or association to cover the expenses incurred by the government in the common interest, without reference to special benefits conferred."[2]

Postage paid to the national government, expenses for articles of incorporation and charters paid to state governments, and water taxes paid to villages and cities that own

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[1] According to the eleventh census of the United States, expenses of national, state, and local governments for a year were as follows:

National Government	$352,000,000
States and Territories	77,000,000
Local Bodies	486,000,000
Total	$915,000,000

[2] *Classification of Public Revenues*—"Quarterly Journal of Economics," April, 1893, p. 321.

their own water systems, are examples of fees as above defined. So far as such charges are in excess of the costs of the various services rendered, such payments become taxes.

Sidewalks, pavements, and sewers in villages and cities are usually constructed by special assessments upon the owners of adjacent real estate. Here again, if the sum collected is in excess of the cost of the improvement, and the excess is not rebated, it may become a tax.

Taxes are justified because social beings cannot live together without social consumption. How much social consumption there shall be is determined, in a democratic country, by the voters. So long as individuals control production of goods, there can not be social consumption without contributions of goods by individuals. As the benefits conferred upon the individual by organized society are invaluable to him, he can not pay for them even by giving all he has. Still, the functions of government, as at present exercised, can be maintained at a less expenditure than the total of the individual incomes, and, therefore, the only logical basis for payment of taxes is that each should pay in proportion to his ability to pay. If one goes farther than this, and tries to specify the exact rates and methods of taxation which will make each citizen pay in proportion to his ability to pay, the task attempted is one for the wisest statesmen and students of finance. Both in self-defense and because of the possible good to be done to society as a citizen and voter, the subject of taxation is worthy of prolonged study.

Suggestive Questions.

1. What should be the amount of fees and special assessments in comparison with the value of the services rendered and benefits conferred? Why?

2. When street car lines, gas works, and water systems are owned by private persons, or corporations, and city councils fix the prices at which the public is to be served, should the rate be higher than required by the service rendered, and the excess paid into the city treasury? Why?

3. In comparison with the national tariff dues, is the difference of one cent a ride on the street cars of greater or less importance to the ordinary wage-earner? Give reasons.

4. When should public property be exempt from taxation?

5. When should church property and the property of private charitable institutions be exempt?

6. If one man owns property worth $100,000, and another owns property worth $1,000, will the same rate of tax upon each dollar of property make each man pay in proportion to his ability? Why?

7. Should men pay school taxes in proportion to the number of children they have? Why?

8. What are the difficulties in taxing personal property?

9. What is an income tax?

10. Show how taxation sometimes leads to bribe-giving and bribe-taking?

11. What other sources of revenue, if any, than by deducting something from the total product of individual producers, do governments have?

12. Should government funds be expended for faithful services and good qualities of commodities at higher rates than are paid for these goods by private consumers? Why?

13. Why do men seek so earnestly for government positions?

14. In the present state of efficiency and honesty in the administration of various political units, should governments undertake more or fewer functions? Why?

15. Do added responsibility and accountability ever develop greater honesty and efficiency? Explain.

16. Should the owner of a mortgaged farm pay taxes on the whole value of the farm? Why?

17. Should the holder of the mortgage pay a tax on the mortgage?

18. Should a corporation pay taxes on both its stock and bonds? Why?

19. Should bondholders pay taxes on their bonds?

20. Should a man know from year to year about what his taxes will be? Why?

21. Should he know when they must be paid?

22. Does it make any difference to him what time of the year they must be paid? Why?

23. If a man refuses to pay his taxes what happens? Why?

24. Why can a nation demand the lives of its citizens to save the nation from invasion?

25. How much of a man's income and property may be taken in taxes? Why?

26. What is an inheritance tax?

27. What is a progressive tax?

28. Should an inheritance tax be progressive? Why?

Chapter V

CONSUMPTION

Kinds of Consumption. Consumption in economics means primarily destruction of utility. It is the opposite of production. Consumption may be wasteful, as when utilities are destroyed by a conflagration. It may be productive, as in the case of raw materials which lose their utility as raw materials in order to receive greater utility in a finished product, when it is really a form of production. Finally, utilities may be appropriated to satisfy the wants of men. This is consumption proper. When the word consumption is used without explanation, we mean this last form of it. To obtain the means wherewith to satisfy his wants and the wants of others, man puts forth all his efforts. When utilities are destroyed in satisfying human wants, the purpose of their creation is fulfilled. Man is the beginning and the end of the economic process. That man may have a more abundant life, the whole complex machinery of modern industrial society has been evolved and set in motion. What man primarily wants is his dinner, not merely the cookstove on which it was prepared; clothing, not the spindles and looms on which the cloth was spun and woven; pictures and symphonies, not the paint brushes and musical instruments by which they are produced. Other things being equal, the world welfare, therefore, varies with the per capita amount of consumption goods. From the economic standpoint, a man's life is more abundant the more various and the better adjusted the consumption goods he enjoys.

A Penny Saved. From this point of view, the proverb, "A penny saved is a penny earned," may acquire new meaning. To produce consumption goods and then have man

consume them in such a way as to give him no rational enjoyment, leaves human want just as unsatisfied as before. To destroy them outright brings the same result. But to save from pure waste, or unsatisfactory consumption, to man's rational enjoyment a utility already in existence is as much worth while as to produce another like it for the same high purpose.

Goods to the value of more than $100,000,000 are annually destroyed by fire in the United States. By means of fire insurance companies, this loss is so distributed that the individual owners are not impoverished, but this ought not to disguise the fact that the people have annually just this much less satisfaction of want because of such destruction.

The wastes of each household, because of throwing away half-consumed utilities, cooking which does not bring out nutritive qualities, unwise selection of materials, etc., make an enormous aggregate in this country. A better knowledge of the nutritive qualities of foods and more skill in cooking may, therefore, make the incomes of the American people result in far greater welfare than at present, even if their incomes be not increased. To have some real part, even in one family, in preventing waste and unwise use of the consumption utilities actually produced is, therefore, an economic service of great dignity.

Consumption as Demand. Skilful men often get an article produced which the public had not before known, and, therefore, had never consumed, but which, once made, they feel a need for and consume freely. Still, it is also true that the articles men consume determine very largely the articles that are made, and, to a great degree, the conditions under which they are made. We are familiar with this truth when used by opponents of prohibitory liquor legislation. If men cease to drink alcoholic drinks, they will no longer be compounded. This truth can not be covered up by retorting that liquors can not be drunk if no one makes them. Both facts should be kept in mind. Utilities face both toward production, and

toward consumption. Production and consumption react on each other, stimulating and retarding each other, through utility. Neither can long exist without the other.

Consumers' Leagues.[1] Relying upon this power of consumption to influence even the conditions of production, large numbers of consumers, especially in large cities, are forming themselves into leagues for the purpose of discouraging the purchase of any article which is made in unsanitary buildings or the makers and sellers of which are inadequately paid. These leagues rely, in the main, upon two methods: first, they make "White Lists" of such manufacturers and storekeepers as come up to their standard of a "fair house." Second, they put a brand, or seal, of some kind upon all articles that are known to be made and sold under humane and healthful conditions, and consumers are thus enabled to avoid other articles. If a sufficient number of consumers can be induced to act in this way, it is evident that finally articles made and offered for sale under improper conditions will lack sale.

Social Consumption. Not only is it possible for each consumer to prevent absolute waste, to choose between a utility which debases his manhood and one which ennobles, and to help to make the conditions under which others produce and sell more helpful to them, but there is yet another way to make the goods already produced contribute more to the welfare of mankind than is yet common. Many goods are relatively permanent, and continue to satisfy want until finally destroyed by the tooth of time. Of such a nature are fine buildings, statuary, paintings, and, to a less degree, books. Still other goods are so renewed from year to year as to be permanent and often of growing utility. Of such a nature are parks, beautiful drives, avenues of trees, the sight of waterfalls and beautiful landscapes. Such utilities may be consumed by the owner, in selfish isolation from his fellows, or

[1] Kelly, *Aims and Principles of the Consumers' League*—"The American Journal of Sociology," November, 1899.

with infinitely greater satisfaction in company with them. "As things are, the first impulse of the man who becomes rich is to hedge himself away from his fellows; to put up barbed wire around his belongings; to travel by a separate class; and, generally, to hang out the sign, 'Trespassers beware'—not from the admirable motive of being alone with nature, but simply that of being distinguished from the crowd. . . . We have the common phenomenon in the neighborhood of our cities, of owners building walls around thousands of acres, with the intention of preventing the public from enjoying what surely belongs to no private owner, the sight of God's Earth."[1]

Contrasted with this kind of consumption, we have that of others who, by means of their open picture galleries, free libraries, unfenced lawns and parks, interchange of services in social settlements, disinterested public services, and social consumption in many other ways, are demonstrating that the goods we now have might contribute to the wants of a larger number of men than at present enjoy them.

Suggestive Questions.

1. How is it possible for a person or family to be too "saving," to starve the life of to-day in order to lay up too many goods for the future?

2. May a nation consume too little of its income from day to day and invest more in factories, railways, machinery, etc., than can be kept at work? Explain.

3. Give illustrations of the effect of consumption upon production and distribution.

4. Give illustrations of social consumption in your own town or city.

5. Show in what directions it may be increased.

6. Make out a set of rules to guide a person in his expenditure, having in mind some such possibilities of choice as the following:

[1] Smart, *Studies in Economics*, pp. 305-307—1895, The Macmillan Co., New York.

a. Between satisfying a want for something harmful and something helpful to manhood.

b. Between satisfying a want for something helpful and something more helpful to manhood.

c. Between satisfying wants by selfish consumption and social consumption.

d. Between saving and consumption enough to develop normal men and women.

e. Between extravagant consumption by a few and moderate consumption by many.

7. Write a letter of advice to young men and women, setting forth the conditions under which they may be reasonably sure of producing goods of such value to society that they can get goods enough in return to secure for them a life of decent comfort.

a. What kind of efficiency should they seek to acquire?

b. Should they seek an occupation that is already crowded? Why?

c. Suppose all occupations are crowded, what are they to seek to do?

CONCLUSION

1. Look up the list of questions asked by members of the class as suggested in Lesson XVII, Part I.

2. Answer for yourself every one that you can.

3. Make a new and consecutive list of all the questions you can not answer.

4. Add to the list other important questions which have been raised during your study of economics but not answered to your satisfaction.

5. Keep this list of questions in some convenient place, and look at it from time to time, as the months go by, whatever your station in life.

6. Cross off such questions as time and further study enable you to answer.

7. Add to the list such new questions as time and wider experience compel you to ask.

8. Keep on with the study of some particular questions in which you are especially interested.

APPENDIX

The following tables of statistics are inserted for two reasons: first, because they throw some light upon one or more of the topics discussed in the text; second, because they furnish data for further exercises in graphic statement. Full scope may thus be given to the ingenuity of pupils in devising the best methods of representing statistical facts by curves, bars, masses of color, circles, etc. The special talent of certain pupils, in this kind of work, may often contribute much to the good of all. Some of the statistics may also be diagrammed by each pupil with profit.

Additional statistics of great variety may easily be obtained by reference to the *Statistical Abstract*, and to the authorities suggested in the note at the beginning of Part III.

YEARLY COTTON PRODUCT[1] OF THE UNITED STATES.[2]

Year.	Bales.	Year.	Bales.	Year.	Bales.
1841	1,688,675	1860.....	3,826,086	1879.....	5,057,397
1842	2,394,203	1861.....	No report	1880.....	5,789,329
1843	2,108,579	1862.....	No report	1881.....	5,435,845
1844	2,484,662	1863.....	No report	1882.....	6,992,234
1845	2,170,537	1864.....	No report	1883.....	5,714,052
1846	1,860,479	1865	2,228,987	1884.....	5,669,021
1847	2,424,113	1866.....	2,059,271	1885.....	6,550,215
1848	2,808,596	1867.....	2,498,895	1886.....	6,513,623
1849	2,071,706	1868.....	2,439,039	1887.....	7,017,704
1850	2,415,257	1869.....	3,154,946	1888.....	6,935,032
1851	3,090,029	1870.....	4,352,317	1889.....	7,313,726
1852	3,352,882	1871.....	2,974,351	1890.....	8,655,000
1853	3,035,027	1872.....	3,930,508	1891.....	9,035,000
1854	2,932,339	1873.....	4,170,388	1892.....	6,700,000
1855	3,645,345	1874.....	3,832,991	1893.....	7,534,735
1856	3,056,519	1875.....	4,669,288	1894.....	9,900,000
1857	3,238,902	1876.....	4,485,423	1895.....	7,157,346
1858	3,994,481	1877.....	4,811,265	[3]1896.....	8,757,964
1859	4,823,770	1878.....	4,073,534	[3]1897.....	11,199,994

[1]Year ending September 1.

[2]*Manual of Statistics and Stock Exchange Handbook* for 1897, p. 418—Charles H. Nicoll, New York.

[3]The same, for 1899, p. 496.

Pig Iron Production of the United States.[1]

Year.	Tons.	Year.	Tons.	Year.	Tons.
[2]1854.....	736,218	1869.....	1,916,641	1884.....	4,097,868
1855.....	784,178	1870.....	1,865,000	1885.....	4,044,526
1856.....	883,137	1871.....	1,911,608	1886.....	5,683,329
1857.....	798,157	1872.....	2,854,558	1887.....	6,417,148
1858.....	705,094	[3]1873.....	2,560,963	1888.....	6,489,738
1859.....	840,627	1874.....	2,401,262	1889.....	7,603,642
1860.....	919,770	1875.....	2,023,733	1890.....	9,203,703
1861.....	731,544	1876.....	1,868,961	1891.....	8,279,870
1862.....	787,662	1877.....	2,066,594	1892.....	9,157,000
1863.....	947,604	1878.....	2,301,215	1893.....	7,124,000
1864.....	1,135,996	1879.....	2,741,853	1894.....	6,657,088
1865.....	931,582	1880.....	3,835,151	1895.....	9,446,308
1866.....	1,350,344	1881.....	4,144,254	1896.....	8,623,127
1867.....	1,461,626	1882.....	4,123,323	[4]1897.....	9,652,860
1868.....	1,603,000	1883.....	4,593,510	[4]1898.....	11,773,934

[1] *Manual of Statistics* for 1897, p. 398.
[2] 1854 to 1872, net tons.
[3] 1873 to 1898, gross tons.
[4] *Manual of Statistics* for 1897, p. 451.

Freight Rates on Wheat, by Lake, Canal, and Rail, from Chicago to New York, 1857-1898 [1]

Calendar Year.	Average Rates per Bushel			Calendar Year.	Average Rates per Bushel.		
	By Lake and Canal.[2]	By Lake and Rail.	By All Rail.		By Lake and Canal.[2]	By Lake and Rail.	By All Rail.
	Cents.	Cents.	Cents.		Cents.	Cents.	Cents.
1857	25.29	.....	.....	1878.....	9.15	11.4	17.7
1858	16.28	.....	.....	1879.....	11.60	13.3	17.3
1859	17.59	.....	.....	1880.....	12.27	15.7	19.9
1860	24.83	.....	.....	1881.....	8.19	10.4	14.4
1861	26.55	.....	.....	1882.....	7.89	10.9	14.6
1862	26.33	.....	.....	1883.....	8.37	11.5	16.5
1863	22.91	.....	.....	1884.....	6.31	9.95	13.125
1864	28.36	.....	.....	1885.....	5.87	9.02	14
1865	26.62	.....	.....	1886.....	8.71	12	16.5
1866	29.61	.....	.....	1887.....	8.51	12	[3]15.74
1867	22.36	.....	.....	1888.....	5.93	11	[3]14.5
1868	22.79	29	42.6	1889.....	6.89	[3] 8.7	15
1869	25.12	25	35.1	1890.....	5.85	8.5	14.31
1870	17.11	22	33.3	1891.....	5.96	8.53	15
1871	20.24	25	31	1892.....	5.61	7.55	14.23
1872	24.47	28	33.5	1893.....	6.33	8.44	14.7
1873	19.19	26.9	33.2	1894	4.44	7	12.88
1874	14.1	16.9	28.7	1895.....	4.11	6 95	12.17
1875	11.43	14.6	24.1	1896.....	5.38	7.32	12.
1876	9.58	11.8	16.5	1897.....	4.35	7.37	12.32
1877	11.24	15.8	20.3	1898.....	4.42	9.50	11.55

[1] Prepared by J. C. Brown, Statistician, New York Produce Exchange. Quoted in 1898 *Statistical Abstract*, p. 359.
[2] Including canal tolls until 1882, but not Buffalo transfer charges.
[3] Averages of officially published tariffs; actual rates lower.

PRICES OF PIG IRON, ROLLED BAR IRON, IRON AND STEEL RAILS, PER TON, AND OF CUT NAILS, PER KEG OF 100 LBS.[1]

Calendar Year.	Pig Iron, No. 1 Anthracite Foundry.[2]	Bar Iron, Best Rolled.[2]	Iron Rails, Standard Sections.[3]	Steel Rails.[3]	Cut Nails.[4]	Wire Nails.
1850.....	$20.88	$59.54	$47.88	First made in commercial quantities in the United States in 1867.	$3.71	Not made in commercial quantities before 1887.
1851.....	21.38	54.66	45.63		3.28	
1852.....	22.63	58.79	48.38		3.13	
1853.....	36.12	83.50	77.25		4.85	
1854.....	36.88	91.33	80.13		4.76	
1855.....	27.75	74.58	62.88		4.10	
1856.....	27.12	73.75	64.38		3.92	
1857.....	26.38	71.04	64.25		3.72	
1858.....	22.25	62.29	50.00		3.53	
1859.....	23.38	60.00	49.38		3.86	
1860.....	22.75	58.75	48.00		3.13	
1861.....	20.25	60.83	42.38		2.75	
1862.....	23.88	70.42	41.75		3.47	
1863.....	35.25	91.04	76.88		5.13	
1864.....	59.25	146.46	126.00		7.85	
1865.....	46.12	106.38	98.63		7.08	
1866.....	46.88	98.13	86.75		6.97	
1867.....	44.12	87.08	83.13	$166.00	5.92	
1868.....	39.25	85.63	78.88	158.50	5.17	
1869.....	40.63	81.66	77.25	132.25	4.87	
1870.....	33.25	78.96	72.25	106.75	4.40	
1871.....	35.12	78.54	70.38	102.50	4.52	
1872.....	48.88	97.63	85.13	112.00	5.46	
1873.....	42.75	86.43	76.67	120.50	4.90	
1874.....	30.25	67.95	58.75	94.25	3.99	
1875.....	25.50	60.85	47.75	68.75	3.42	
1876.....	22.25	52.08	41.25	59.25	2.98	
1877.....	18.88	45.55	35.25	45.50	2.57	
1878.....	17.63	44.24	33.75	42.25	2.31	
1879.....	21.50	51.85	41.25	48.25	2.69	
1880..	28.50	60.38	49.25	67.50	3.68	
1881.....	25.12	58.05	47.13	61.13	3.09	
1882.....	25.75	61.41	45.50	48.50	3.47	
1883.....	22.38	50.30	Superseded by the manufacture of steel rails.	37.75	3.06	
1884.....	19.88	44.05		30.75	2.39	
1885.....	18.00	40.32		28.50	2.33	
1886.....	18.71	43.12		34.50	2.27	
1887.....	20.92	49.37		37.08	2.30	$3.15
1888.....	18.88	44.99		29.83	2.03	2.55
1889.....	17.75	43.40		29.25	2.00	2.49
1890.....	18.40	45.92		31.75	2.00	2.51
1891.....	17.52	42.56		29.92	1.86	2.05
1892.....	15.75	41.89		30.00	1.83	1.70
1893.....	14.52	38 08		28.12	[5]1.44	1.49
1894.....	12.66	29 96		24.00	[5]1.08	1.11

[1] Furnished by the American Iron and Steel Association, *Statistical Abstract*, 1894, p. 412.
[2] At Philadelphia.
[3] At mills in Pennsylvania.
[4] Wholesale store prices at Philadelphia.
[5] Prices based on a new classification adopted in 1893, the base price and schedule of extras being changed to correspond with the wire nail schedule.

GOLD AND SILVER.

World's Product of Gold and Silver.[1]

Calendar Year.	Gold.	Silver (Coining Value).	Per Cent Gold.	Per Cent Silver.
1492[2]–1520	$107,931,000	$ 54,703,000	66.4	33.6
1521–1544	114,205,000	98,986,000	55.9	44.1
1545–1560	90,492,000	207,240,000	30.4	69.6
1561–1580	90,917,000	248,990,000	26.7	73.3
1581–1600	98,095,000	348,254,000	22.0	78.0
1601–1620	113,248,000	351,579,000	24.4	75.6
1621–1640	110,324,000	327,221,000	25.2	74.8
1641–1660	116,571,000	304,525,000	27.7	72.3
1661–1680	123,084,000	280,166,000	30.5	69.5
1681–1700	143,088,000	284,240,000	33.5	66.5
1701–1720	170,403,000	295,629,000	36.6	63.4
1721–1740	253,611,000	358,480,000	41.4	58.6
1741–1760	327,116,000	443,232,000	42.5	57.5
1761–1780	275,211,000	542,658,000	33.7	66.3
1781–1800	236,464,000	730,810,000	24.4	75.6
1801–1810	118,152,000	371,677,000	24.1	75.9
1811–1820	76,063,000	224,780,000	25.3	74.7
1821–1830	94,479,000	191,444,000	33.0	67.0
1831–1840	134,841,000	247,930,000	35.2	64.8
1841–1850	363,928,000	324,400,000	52.9	47.1
1851–1855	662,566,000	184,169,000	78.3	21.7
1856–1860	670,415,000	188,092,000	78.1	21.9
1861–1865	614,944,000	228,861,000	72.9	27.1
1866–1870	648,071,000	278,313,000	70.0	30.0
1871–1875	577,883,000	409,322,000	58.5	41.5
1876–1880	572,931,000	509,256,000	53.0	47.0
1881–1885	495,582,000	594,773,000	45.5	54.5
1886	106,163,900	120,626,800	46.8	53.2
1887	105,774,900	124,281,000	45.9	54.1
1888	110,196,900	140,706,400	43.9	56.1
1889	123,489,200	155,427,700	44.3	55.7
1890	118,848,700	163,032,000	42.1	57.9
1891	130,650,000	177,352,300	42.4	57.6
1892	146,651,500	198,014,400	42.5	57.5
1893	157,494,800	213,944,400	42.4	57.6
1894	180,567,800	212,829,600	46.3	53.7
1895	200,406,000	217,610,800	47.7	52.3
Total	8,781,858,700	10,344,561,400	[Av.] 45.9	[Av.] 54.1

[1]Report of the Director of the Mint, for 1896, pp. 232, 233.

[2]The estimates from 1492 to 1885 are from a table of averages for certain periods compiled by Dr. Adolph Soetbeer. For the years 1886 to 1895, the production is the annual estimate of the bureau of the mint.

From the Report of the Director of the Mint for 1898, pp. 272, 273, these additional figures are taken:

Calendar Year.	Gold.	Silver.	Per Cent Gold.	Per Cent Silver.
1896.....	202,682,300	217,442,900	48.2	51.8
1897.....	237,504,800	236,730,300	50	50

FREIGHT RATES ON GRAIN AND FLOUR FROM ST. LOUIS, TO VARIOUS POINTS DURING EACH YEAR, FROM 1877 TO 1898.[1]

Calendar Year.	To New Orleans by River.		To New York by Rail.		To Liverpool.	
	100 lbs. Grain in Sacks.	Wheat in Bulk by Barge, per Bushel.	Wheat per 100 lbs.	Flour per Barrel.	Via New Orleans, Wheat, per Bushel.	Via New York, Wheat, per Bushel.
	Cents.	Cents.	Cents.	Cents.	Cents.	Cents.
1877.....	21	8.5	41	82	.....	.....
1878.....	17.5	7.25	38	76	.....	.....
1879.....	18	7.75	33.5	67	.....	.....
1880.....	19	8.25	42	84	.....	.....
1881.....	20	6	32	64	.....	.....
1882.....	20	6.42	29.5	59	22.66	23.66
1883.....	17.75	5.5	33	66	19.58	27
1884.....	14.	6.63	26	52	14.58	21.25
1885.....	15	6.4	22.14	44.29	15.11	20.5
1886.....	16	6.5	29	58	16.17	24
1887.....	18	6.5	32.13	64.25	14.8	24.8
1888.....	15	6.5	29.5	59	15.17	22.95
1889.....	17.93	5.95	28.5	58	17.33	24.97
1890.....	15.66	6.58	27.63	52.63	14.33	21.48
1891.....	16.28	6.88	29	58	15.75	23.55
1892.....	16.87	6.50	26.62	58	14	21
1893.....	17.54	6.55	28.5	57	14.71	21.72
1894.....	17.14	5.89	24.73	50	11.69	18.71
1895.....	13	5.95	[2]23.57	47	12.13	18.33
1896.....	14.54	5	23	46	13.50	19.67½
1897.....	10.83	4.88	23.64	47.26	12.89	20.33
1898.....	10	4.50	22.25	45.10	14.19	20.32

[1]Prepared by Mr. George H. Morgan, Secretary Merchants' Exchange, St. Louis, Missouri, and quoted in 1898 *Statistical Abstract*, p. 360.

[2]Published rates since 1894.

UNITED STATES ANTHRACITE COAL STATISTICS.[1]

THE QUANTITY OF ANTHRACITE COAL SENT TO MARKET FROM THE BEGINNING[2] (OF MINING) TO THE END OF 1898.

Year.	Tons.	Year.	Tons.
1820	365	1860	8,131,234
1821	1,073	1861	7,474,917
1822	2,240	1862	7,481,719
1823	5,823	1863	8,704,918
1824	9,541	1864	9,932,007
1825	34,893	1865	9,488,396
1826	48,047	1866	13,418,472
1827	63,434	1867	12,637,697
1828	77,516	1868	14,214,889
1829	112,083	1869	13,908,819
1830	174,734	1870	15,552,380
1831	176,820	1871	15,610,663
1832	363,871	1872	20,747,149
1833	487,748	1873	21,689,959
1834	376,636	1874	19,805,074
1835	560,758	1875	20,643,509
1836	682,428	1876	18,906,000
1837	881,476	1877	20,824,411
1838	739,293	1878	17,306,911
1839	819,327	1879	26,142,689
1840	865,414	1880	23,437,243
1841	958,899	1881	28,485,080
1842	1,108,001	1882	29,305,782
1843	1,263,539	1883	31,793,027
1844	1,631,669	1884	30,718,293
1845	2,023,052	1885	31,637,350
1846	2,343,992	1886	32,136,363
1847	2,982,303	1887	34,341,017
1848	3,089,238	1888	38,145,718
1849	3,242,541	1889	35,510,710
1850	3,254,321	1890	35,855,000
1851	4,377,130	1891	40,448,336
1852	4,925,695	1892	41,893,320
1853	5,114,491	1893	43,089,536
1854	5,753,369	1894	41,391,199
1855	6,552,301	1895	46,292,443
1856	6,751,542	1896	43,270,000
1857	6,420,342	[3]1897	41,637,864
1858	6,491,187	[3]1898	41,899,751
1859	7,517,516		

[1] *The Manual of Statistics* for 1897, p. 397.

[2] Shipments commenced from the Lehigh region in 1820; the Schuylkill region in 1825; the Lackawanna region in 1829; the Pittston or Upper Lackawanna region in 1850, and the Scranton region in 1856.

[3] *Manual of Statistics* for 1899, p. 449.

HIGHEST AND LOWEST PRICES (NEW YORK) OF CRUDE OIL, PER BARREL, IN EACH YEAR.[1]

Year.	High Month.	High Price.	Low Month.	Low Price.	Average.
1861 ...	January	$1.75	November.... .	$0.05	$0.52
1862 ...	October	2.00	January.....	.10	1.00
1863 ...	December	4.00	January.....	2.00	3.11
1864 ...	July.....	14.00	February.....	3.75	7.85
1865 ...	January	10.00	August.....	4.00	6.65
1866 ...	January	5.00	December	1.65	3.76
1867 ...	September.....	4.00	June	1.50	2.40
1868 ...	July	5.50	January.....	1.80	3.57
1869 ...	January	7.00	December	4.25	5.64
1870 ...	January	4.90	August	2.75	3.86
1871 ...	June	5.15	January.....	3.40	4.42
1872 ...	June	4.10	September	3.00	3.68
1873 ...	January	3.05	December	1.00	1.84
1874 ...	April.....	1.90	December	.45	1.17
1875 ...	April.....	1.65	January.....	.90	1.33
1876 ...	December	4.23⅛	January.....	1.48¾	2.61
1877 ...	January	5.70	June	1.53¾	2.37
1878 ...	February	1.86⅞	September.....	.78⅛	1.17
1879 ...	December	1.28⅛	June	.63⅛	.86
1880 ...	June	1.24⅜	April	.70⅝	.95
1881 ...	September.....	1.01½	July	.72½	.85
1882 ...	November.....	1.36	July	.49¼	.79
1883 ...	June	1.24	January.....	.83⅜	1.06
1884 ...	January	1.15⅝	June	.51⅜	.84
1885 ...	October	1.12½	January.....	.68	.88⅛
1886 ...	January	.92¼	August.....	.59¾	.71⅜
1887 ..	December	.90⅛	July	.54	.62⅜
1888 ...	March	1.00	June	.71¾	.87¼
1889 ...	November.....	1.12½	April	.80	.94⅛
1890 ...	February.....	1.08	December	.60¼	.84½
1891 ...	February.....	.81	August	.51⅛	.66¼
1892 ...	January.....	.64⅛	October	.50	.57 1/16
1893 ...	December	.79½	January.....	.53	.66¼
1894 ...	December	.95¾	January.....	.79	.87⅜
1895 ...	April	2.50	January.....	.95	1.36
1896 ...	January.....	1.50½	December.....	.90	1.20¼

[1] *Manual of Statistics* for 1897, p. 412.

COMMERCIAL RATIO OF SILVER TO GOLD EACH YEAR SINCE 1687.[1]

Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.
1687[2]..	14.94	1730..	14.81	1773..	14.62	1815..	15.26	1857..	15.27
1688...	14.94	1731..	14.94	1774..	14.62	1816..	15.28	1858..	15.38
1689...	15.02	1732..	15.09	1775..	14.72	1817..	15.11	1589..	15.19
1690...	15.02	1733..	15.18	1776..	14.55	1818..	15.35	1860..	15.29
1691...	14.98	1734..	15.39	1777..	14.54	1819..	15.33	1861..	15.50
1692...	14.92	1735..	15.41	1778..	14.68	1820..	15.62	1862..	15.35
1693...	14.83	1736..	15.18	1779..	14.80	1821..	15.95	1863..	15.37
1694...	14.87	1737..	15.02	1780..	14.72	1822..	15.80	1864..	15.37
1695...	15.02	1738..	14.91	1781..	14.78	1823..	15.84	1865..	15.44
1696...	15.00	1739..	14.91	1782..	14.42	1824..	15.82	1866..	15.43
1697...	15.20	1740..	14.94	1783..	14.48	1825..	15.70	1867..	15.57
1698...	15.07	1741..	14.92	1784..	14.70	1826..	15.76	1868..	15.59
1699...	14.94	1742..	14.85	1785..	14.92	1827..	15.74	1869..	15.60
1700...	14.81	1743..	14.85	1786..	14.96	1828..	15.78	1870..	15.57
1701...	15.07	1744..	14.87	1787..	14.92	1829..	15.78	1871.	15.57
1702...	15.52	1745..	14.98	1788..	14.65	1830..	15.82	1872..	15.63
1703...	15.17	1746..	15.13	1789..	14.75	1831..	15.72	1873..	15.92
1704...	15.22	1747..	15.26	1790..	15.04	1832..	15.73	1874..	16.17
1705...	15.11	1748..	15.11	1791..	15.05	1833..	15.93	1875..	16.59
1706...	15.27	1749..	14.80	1792..	15.17	1834..	15.73	1876..	17.88
1707...	15.44	1750..	14.55	1793..	15.00	1835..	15.80	1877..	17.22
1708...	15.41	1751..	14.39	1794..	15.37	1836..	15.72	1878..	17.94
1709...	15.31	1752..	14.54	1795..	15.55	1837..	15.83	1879..	18.40
1710...	15.22	1753..	14.54	1796..	15.65	1838..	15.85	1880..	18.05
1711...	15.29	1754..	14.48	1797..	15.41	1839..	15.62	1881..	18.16
1712...	15.31	1755..	14.68	1798..	15.59	1840..	15.62	1882..	18.19
1713...	15.24	1756..	14.94	1799..	15.74	1841..	15.70	1883..	18.64
1714...	15.13	1757..	14.87	1800..	15.68	1842..	15.87	1884..	18.57
1715...	15.11	1758..	14.85	1801..	15.46	1843..	15.93	1885..	19.41
1716...	15.09	1759..	14.15	1802..	15.26	1844..	15.85	1886..	20.78
1717...	15.13	1760..	14.14	1803..	15.41	1845..	15.92	1887..	21.13
1718...	15.11	1761..	14.54	1804..	15.41	1846..	15.90	1888..	21.99
1719...	15.09	1762..	15.27	1805..	15.79	1847..	15.80	1889..	22.10
1720...	15.04	1763..	14.99	1806..	15.52	1848..	15.85	1890..	19.76
1721...	15.05	1764..	14.70	1807..	15.43	1849..	15.78	1891..	20.92
1722...	15.17	1765..	14.83	1808..	16.08	1850..	15.70	1892..	23.72
1723...	15.20	1766..	14.80	1809..	15.96	1851..	15.46	1893..	26.49
1724...	15.11	1767..	14.85	1810..	15.77	1852..	15.59	1894..	32.56
1725...	15.11	1768..	14.80	1811..	15.53	1853..	15.33	1895..	31.60
1726...	15.15	1769..	14.72	1812..	16.11	1854..	15.33	1896..	30.66
1727...	15.24	1770..	14.62	1813..	16.25	1855..	15.38	1897..	34.28
1728...	15.11	1771..	14.66	1814..	15.04	1856..	15.38	[3]1898..	35.40
1729...	14.92	1772..	14.52						

[1]Report of the Director of the Mint, for 1896, p. 221.

[2]From 1687 to 1832, the ratios are taken from Dr. A. Soetbeer; from 1833 to 1878, from Pixley and Abell's tables; and from 1879 to 1894, from daily cablegrams from London to the bureau of the mint.

[3]Report for 1898, p. 252. Only nine months of 1898 are included.

FOREIGN TRADE OF THE UNITED STATES.

VALUE OF EXPORTS AND IMPORTS OF MERCHANDISE FOR EACH YEAR, FROM OCTOBER 1, 1789, TO JUNE 30, 1898.[1]

Year Ending Sept. 30.	Exp'rts in Millions of Doll'rs.[2]	Imp'rts in Millions of Doll'rs.[3]	Year Ending Sept. 30.	Exp'rts in Millions of Doll'rs.[2]	Imp'rts in Millions of Doll'rs.[3]	Year Ending June 30.	Exp'rts in Millions of Doll'rs.[2]	Imp'rts in Millions of Doll'rs.[3]
1790.....	20	23	1827.....	74	71	1862.....	191	189
1791.....	19	29	1828.....	64	81	1863.....	204	243
1792.....	20	31	1829.....	67	67	1864.....	159	316
1793.....	26	31	1830.....	71	62	1865.....	166	239
1794.....	33	34	1831.....	72	95	1866.....	349	435
1795.....	47	69	1832.....	81	95	1867.....	295	396
1796.....	58	81	1833.....	87	101	1868.....	282	357
1797.....	51	75	1834.....	102	108	1869.....	286	418
1798.....	61	68	[4]1835.....	115	137	1870.....	393	436
1799.....	78	79	1836.....	124	177	1871.....	443	520
1800.....	70	91	1837.....	111	130	1872.....	444	627
1801.....	93	111	1838.....	105	96	1873.....	522	642
1802.....	71	76	1839.....	112	156	1874.....	586	567
1803.....	55	64	1840.....	124	98	1875.....	513	533
1804.....	77	85	1841.....	112	123	1876.....	540	461
1805.....	95	120	1842.....	100	96	1877.....	602	451
1806.....	101	129	Year end'g June 30,			1878.....	695	437
1807.....	108	138				1879.....	710	446
1808.....	22	56	[5]1843.....	83	42	1880.....	836	668
1809.....	52	59	1844.....	106	103	1881.....	902	643
1810.....	66	85	1845.....	106	113	1882.....	751	725
1811.....	61	53	1846.....	110	118	1883.....	824	723
1812.....	38	77	1847.....	157	122	1884.....	741	668
1813.....	27	22	1848.....	138	149	1885.....	742	578
1814.....	6	12	1849.....	140	141	1886.....	680	635
1815.....	52	113	1850.....	144	174	1887.....	716	692
1816.....	81	147	1851.....	189	211	1888.....	696	724
1817.....	87	99	1852.....	167	207	1889.....	742	745
1818.....	93	121	1853.....	203	264	1890.....	858	789
1819.....	70	87	1854.....	237	298	1891.....	884	845
1820.....	69	74	1855.....	219	258	1892.....	1030	827
1821.....	54	54	1856.....	281	310	1893.....	848	866
1822.....	61	79	1857.....	294	348	1894.....	892	655
1823.....	68	72	1858.....	272	263	1895.....	808	732
1824.....	68	72	1859.....	293	331	1896.....	883	780
1825.....	90	90	1860.....	334	354	1897.....	1051	765
1826.....	72	78	1861.....	220	289	1898.....	1231	616

[1]Bureau of Statistics—Special sheets, 1898.

[2]Exports given are totals of merchandise wholly produced in the United States, plus merchandise imported for export.

[3]Imports include all merchandise imported, whether for consumption or export.

[4]Previous to 1835 the millions are obtained by discarding the remaining figures; after 1835 the nearest complete millions are given.

[5]Nine months only.

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